



STANDARD DETAIL PLATES

CITY OF HUDSON, WISCONSIN

2019

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Plate
No.

SECTION 1 - SANITARY SEWER

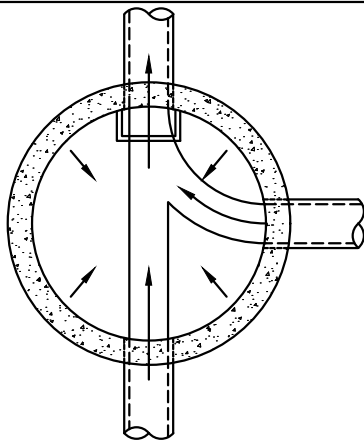
SAN-1	SANITARY SEWER MANHOLE
SAN-2	SANITARY SEWER INSIDE DROP INLET MANHOLE



SECTION 1 - SANITARY SEWER INDEX

LAST REVISION:
March 2019

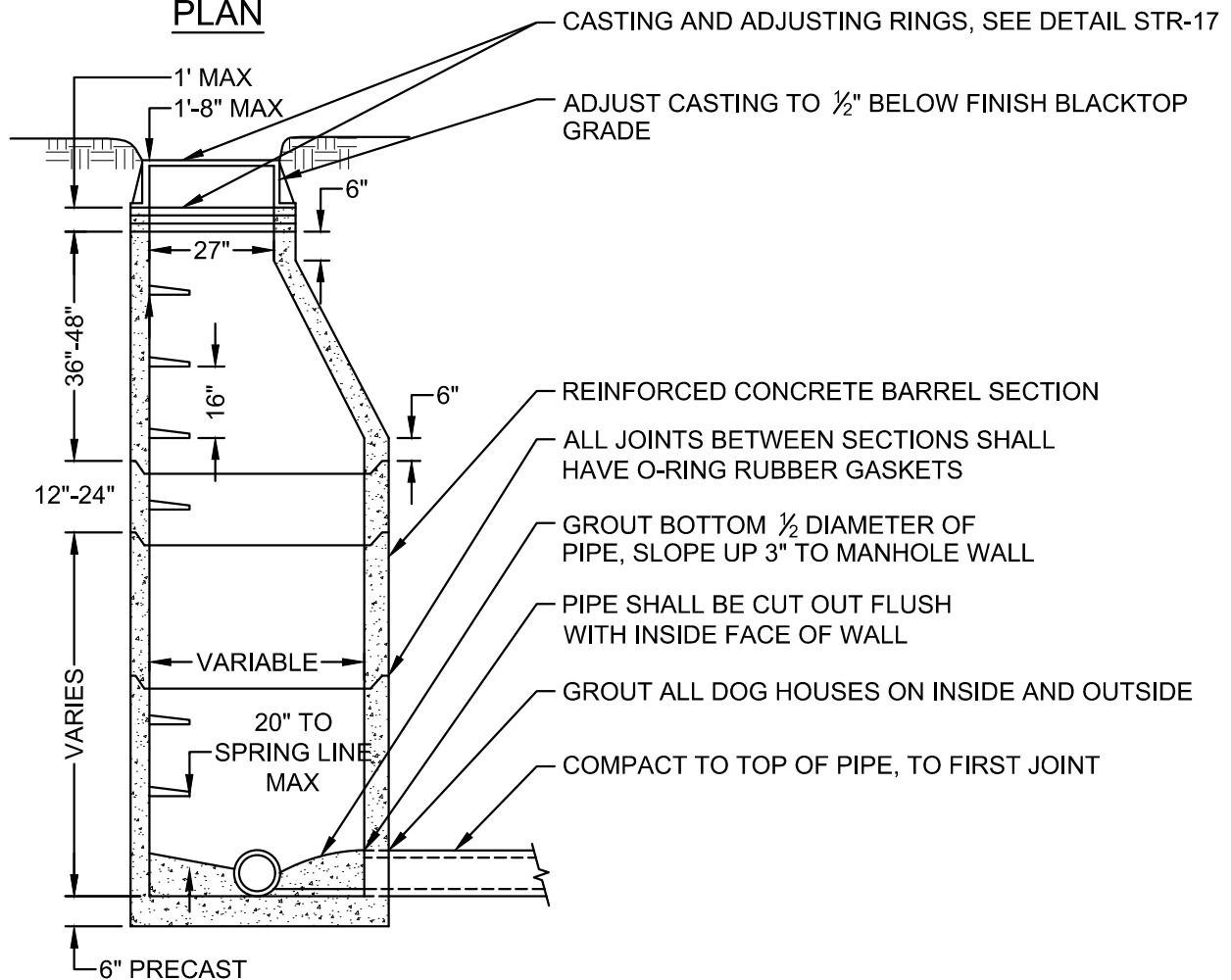
PLATE NO.
SAN



PLAN

NOTES:

1. GROUT BOTTOM OF MANHOLE TO $\frac{1}{2}$ OR $\frac{2}{3}$ DIAMETER OF PIPE AND SLOPE GROUT 2" PER FOOT.
2. $\frac{1}{4}$ " TO $\frac{1}{2}$ " IS MAX. MORTAR THICKNESS WHEN USED FOR CASTING ADJUSTMENT.
3. COPOLYMER POLYPROPYLENE PLASTIC, WITH $\frac{1}{2}$ " GRADE 60 STEEL REINFORCEMENT OR APPROVED EQUAL, STEPS 16" O.C. DOWNSTREAM SIDE.
4. KOR-N-SEAL MANHOLE OR EQUAL CONSIDERED ACCEPTABLE ALTERNATE

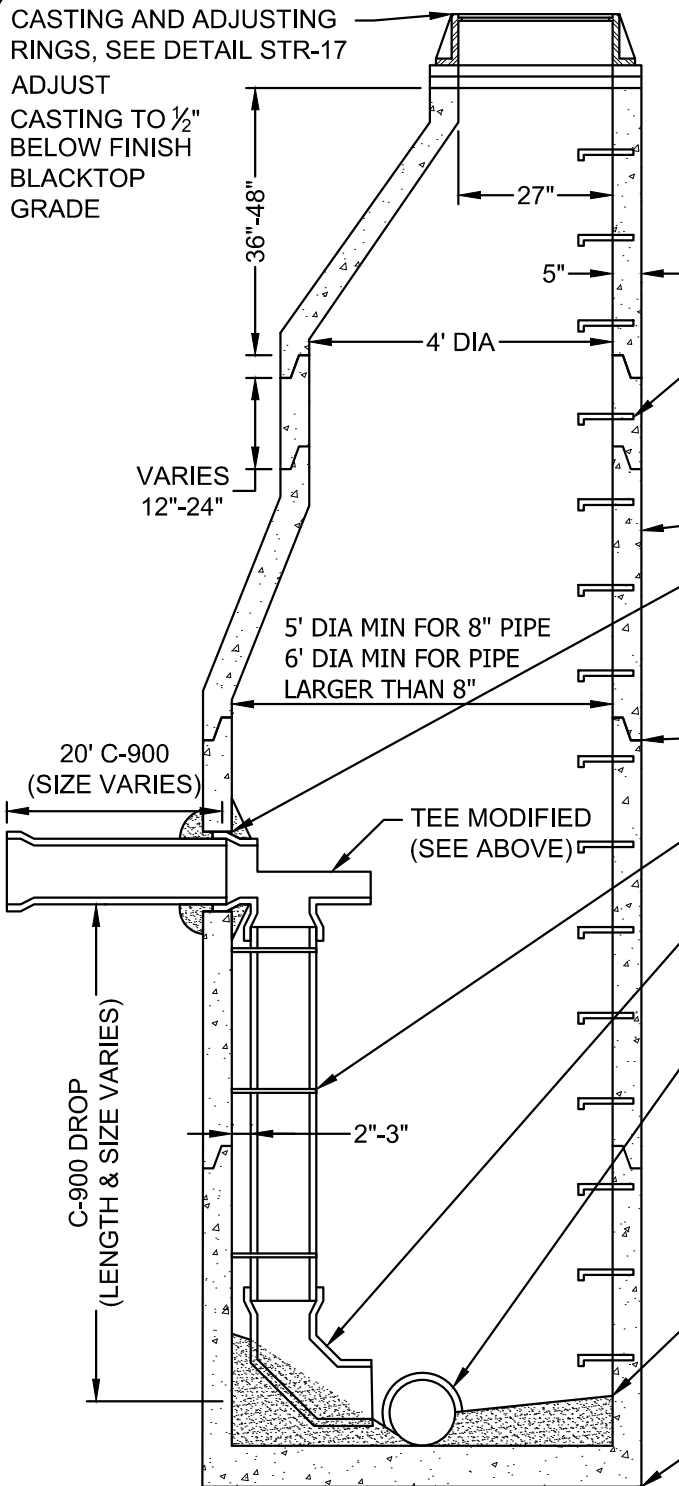


SANITARY SEWER MANHOLE

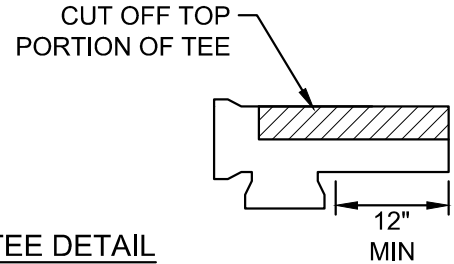
LAST REVISION:
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SAN-1

CASTING AND ADJUSTING RINGS, SEE DETAIL STR-17
ADJUST CASTING TO $\frac{1}{2}$ " BELOW FINISH BLACKTOP GRADE



SECTION



TEE DETAIL

MANHOLE STEPS AS SPECIFIED, 16" ON CENTER. MANHOLE STEPS SHALL BE PLACED SO THAT OFFSET VERTICAL PORTION OF CONE IS FACING DOWNSTREAM.

4'X5' MANHOLE TRANSITION

HOLE FOR TEE SHALL BE 4" LARGER THAN PIPE SIZE TO ALLOW BELL TO BE POSITIONED INSIDE MANHOLE WALL. DOGHOUSES SHALL BE GROUTED WITH NON-SHRINK GROUT TO PROVIDE A WATER TIGHT SEAL.

ALL JOINTS IN MANHOLE TO HAVE O-RING RUBBER GASKETS.

STAINLESS STEEL PIPE BRACKET (MIN. 2 REQUIRED, 5' SPACING)

90° BEND. INSTALL 0.2' ABOVE THROUGH INVERT. POSITION BEND TO ANGLE DOWNSTREAM.

PIPE SHALL BE CUT OUT FLUSH WITH INSIDE FACE OF WALL.

NOTE: KOR-N-SEAL MANHOLE OR EQUAL CONSIDERED ACCEPTABLE ALTERNATE. ALL DOG HOUSES SHALL BE GROUTED ON THE INSIDE AND OUTSIDE. PRECAST INVERT SHOULD BE $\frac{1}{2}$ " DIAMETER OF PIPE AND BENCHES SLOPED 2" TOWARD INVERT.

INVERT AND BENCHES ARE TO BE POURED IN THE FIELD AND INCLUDE THE 90° BEND. INVERT SHOULD BE $\frac{1}{2}$ DIAMETER OF PIPE AND BENCHES SLOPED 2" TOWARD INVERT.

MINIMUM THICKNESS OF PRECAST BASE IS 6" FOR 14' DEEP OR LESS, AND INCREASES 1" IN THICKNESS FOR EVERY 4' OF DEPTH GREATER THAN 14' DEEP.



SANITARY SEWER INSIDE DROP INLET MANHOLE

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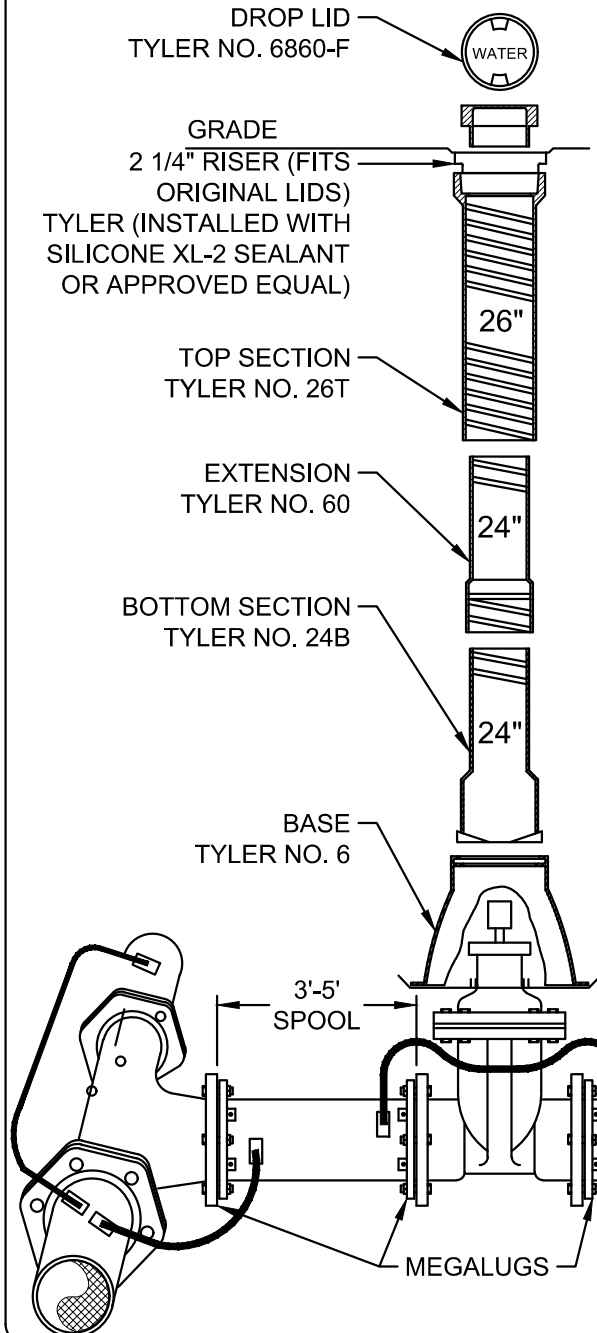
SECTION 2 - WATER MAIN INDEX

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WAT

NOTES:

1. NO THREADED INSERT SECTIONS ARE ALLOWED. TYLER 2 1/4" TO 4" RISERS WITH SILICONE XL-2 SEALANT OR APPROVED EQUAL ARE ACCEPTABLE.
2. 7.5' MINIMUM COVER REQUIRED OVER TOP OF WATER MAIN.
3. "MEGALUG" THRUST RESTRAINT GLAND TO BE USED ON ALL MECHANICAL JOINTS.



4. ALL BOLTS ON VALVES BELOW GRADE MUST BE CHECKED FOR TIGHTNESS AND BE 304 STAINLESS STEEL.
5. ADJUST TOP TO 1/2" BELOW GRADE IN ASPHALT, UTILIZING 1/2" PUCKS WHEN PAVING. BOX TO BE SET TO PROVIDE 6" OF ADJUSTMENT.
6. ADJUST TOP AND SLEEVE TO 1/2" BELOW GRADE IN CONCRETE. BOX TO BE SET TO PROVIDE 6" OF ADJUSTMENT.
7. TYLER NO. 6860-F GATE VALVE BOX, SCREW TYPE, 3 PIECE, 5 1/4" SHAFT, SERIES F BOX, 7.5' EXTENDED, #6 ROUND BASE OR APPROVED EQUAL.
8. SHOULD THE DISTANCE FROM THE TOP NUT OF THE VALVE TO THE SURFACE BE GREATER THAN 9'-6", THEN AN ADAPTER INC. VALVE BOX STABILIZER AND EXTENSION ROD SHALL BE USED.
9. RESILIENT SEATED VALVE CONFORMING TO ANSI/AWWA C515 STANDARDS. WATEROUS AFC 2500 ALL D.I. OR APPROVED EQUAL.
10. EPOXY-COATED FITTINGS SHALL BE STRAPPED FOR CONDUCTIVITY SIMILAR TO VALVES, SEE WAT-3.
11. ALL GATE VALVE BOXES SHALL BE PLUMB. A 4 1/4" OUTSIDE DIAMETER, SCHEDULE 3034 PVC PIPE FITTED PER DETAIL PLATE WAT-11 SHALL FIT OVER THE OPERATIONAL NUT AND SLIDE VERTICALLY WITH NO RESTRICTIONS.
12. VALVE BOXES SHALL NOT BE LOCATED IN CURB AND GUTTER OR WITHIN 12" OF LIP OF CURB AND GUTTER AND NO CLOSER THAN 10' TO A BUILDING.
13. VALVE BOXES OUTSIDE THE ROADWAY (SUCH AS RIGHT-OF-WAYS AND EASEMENTS) SHALL BE MARKED WITH A U-STYLE FENCE POST 4' ABOVE GRADE WITH BLUE METAL SIGN LABELED "GV." SEE WAT-12.
14. INSTALL GATE VALVE ADAPTOR MANUFACTURED BY ADAPTOR INC.

PROVIDE CONDUCTIVITY STRAP (TYP.). AS SPECIFIED

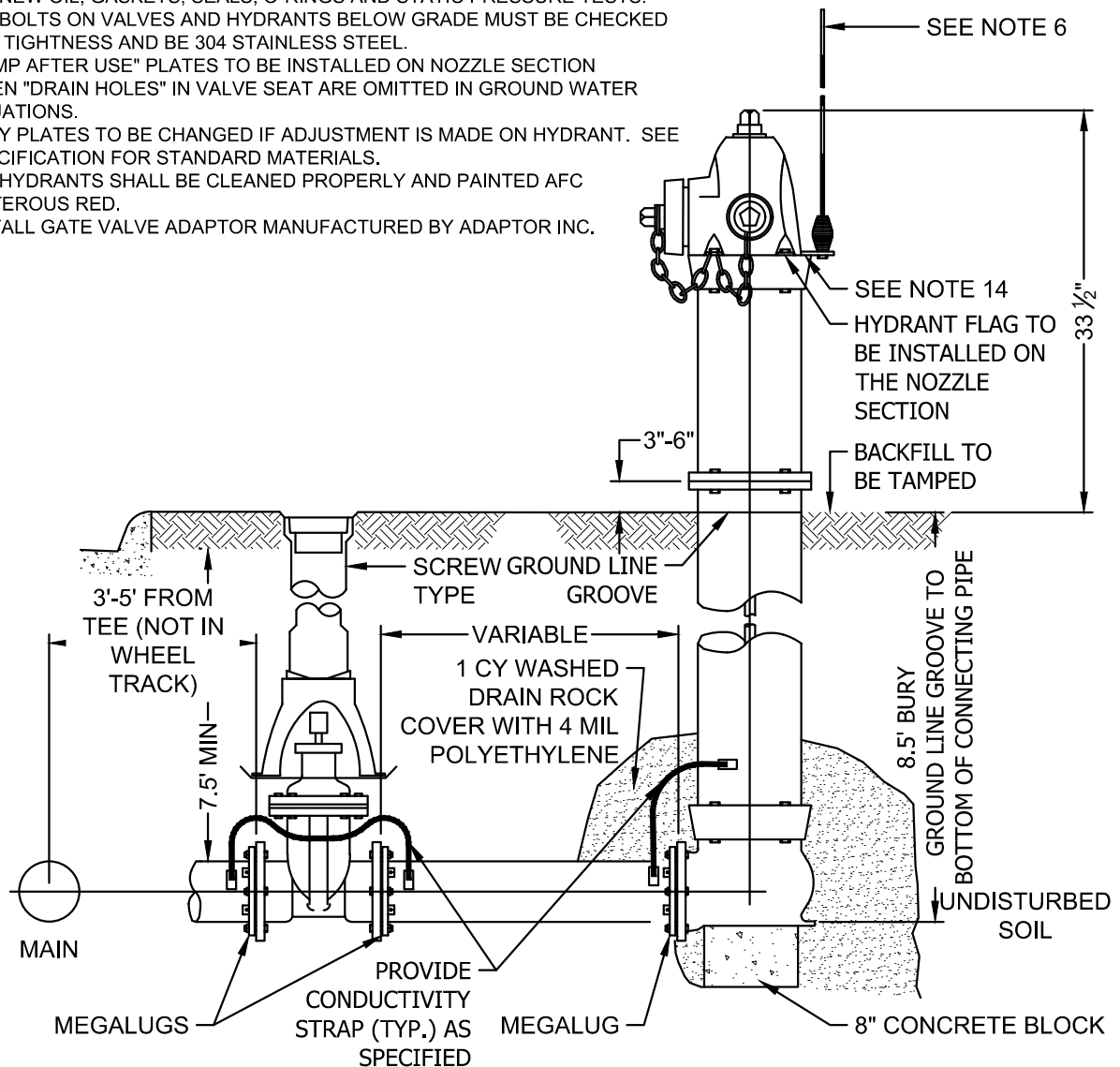


GATE VALVE AND BOX INSTALLATION

LAST REVISION:
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PLATE NO.
WAT-1

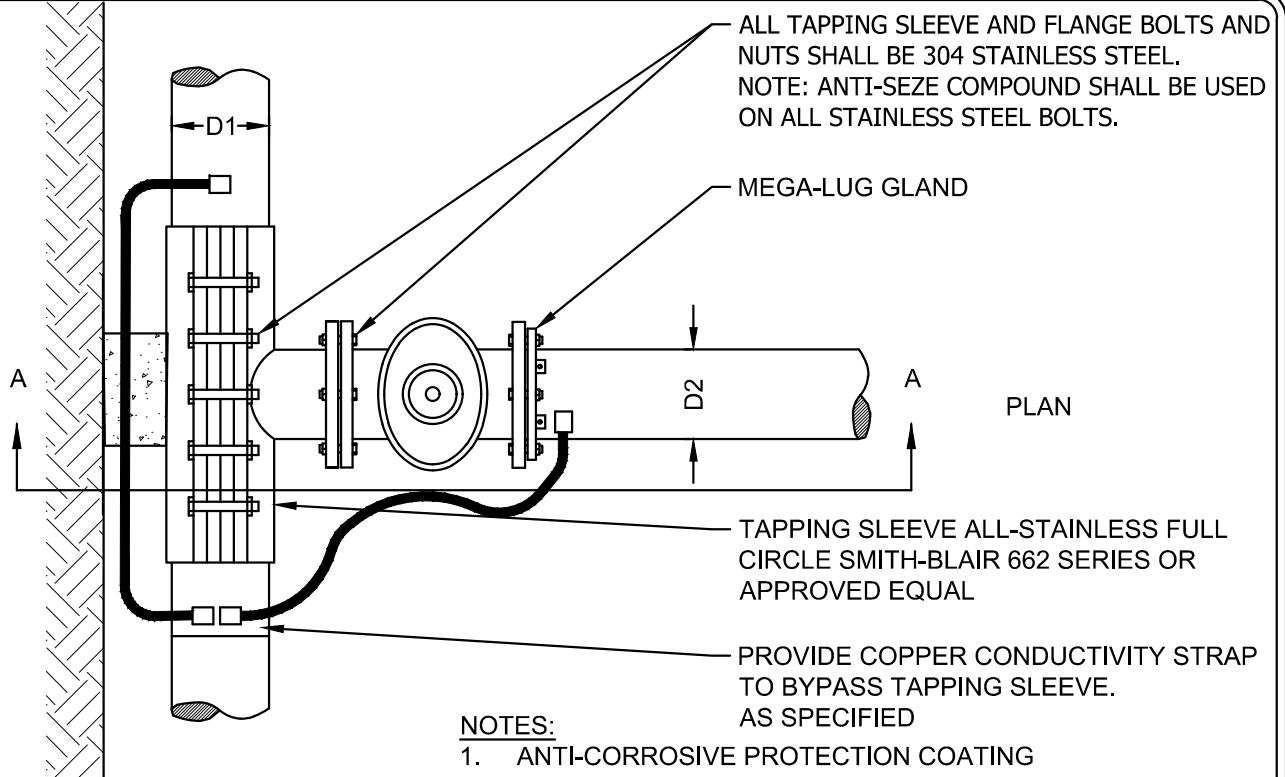
1. ALL HYDRANT LEADS SHALL BE VALVED.
2. HYDRANTS TO BE 7' BEHIND BACK OF CURB.
3. HYDRANTS AT INTERSECTIONS TO BE 10' FROM PROPERTY CORNER OR IN ACCORDANCE WITH NO. 4 BELOW
4. NO HYDRANTS SHALL BE LOCATED BETWEEN OR WITHIN 5' OF P.C. OR P.T. OF INTERSECTION RADII.
5. HYDRANT TO BE WATEROUS AFCWB-67-250 PACER (8.5' BURY WITH 16" BREAKOFF, 6" MECHANICAL JOINT INLET, AND 1-1/2" (FTP) PENTAGON 2-PIECE OPERATING NUT WITH WEATHER SHIELD - OPEN LEFT). EXTENSION KITS TO BE AFC WATEROUS.
6. ONE (1) 5' E-Z GUIDE SAFETY MARKER WITH SPRING BASE HYDRANT FLAG PER FIRE HYDRANT IS REQUIRED.
7. "MEGALUG" THRUST RESTRAINT GLANDS ARE REQUIRED ON ALL HYDRANT LEAD JOINTS BACK TO THE WATER MAIN.
8. HYDRANTS SHALL BE MARKED WITH APPROVED "OUT OF SERVICE" TAGS WHEN INSTALLED.
9. EXTENSIONS MAY BE USED UP TO 42". GRADE-LOK FITTINGS ARE APPROVED AND PREFERRED.
10. WHEN INSTALLING A VALVE ROD EXTENSION, THE NONBREAKABLE COUPLING SLEEVES GO ON THE BOTTOM AND THE BREAKABLE SLEEVES GO ON THE TOP OF THE EXTENSION ROD. VERIFY "TOP AND BOTTOM" OF BREAKOFF SECTION.
11. THE AFCWB-67-250 PACER REQUIRES THE OIL RESERVOIR BE FILLED WITH A FOOD GRADE AFC WATEROUS OIL. ANY REASSEMBLY SHALL REQUIRE ALL NEW OIL, GASKETS, SEALS, O-RINGS AND STATIC PRESSURE TESTS.
12. ALL BOLTS ON VALVES AND HYDRANTS BELOW GRADE MUST BE CHECKED FOR TIGHTNESS AND BE 304 STAINLESS STEEL.
13. "PUMP AFTER USE" PLATES TO BE INSTALLED ON NOZZLE SECTION WHEN "DRAIN HOLES" IN VALVE SEAT ARE OMITTED IN GROUND WATER SITUATIONS.
14. BURY PLATES TO BE CHANGED IF ADJUSTMENT IS MADE ON HYDRANT. SEE SPECIFICATION FOR STANDARD MATERIALS.
15. ALL HYDRANTS SHALL BE CLEANED PROPERLY AND PAINTED AFC WATEROUS RED.
16. INSTALL GATE VALVE ADAPTOR MANUFACTURED BY ADAPTOR INC.



HYDRANT W/ GATE VALVE & BOX INSTALLATION

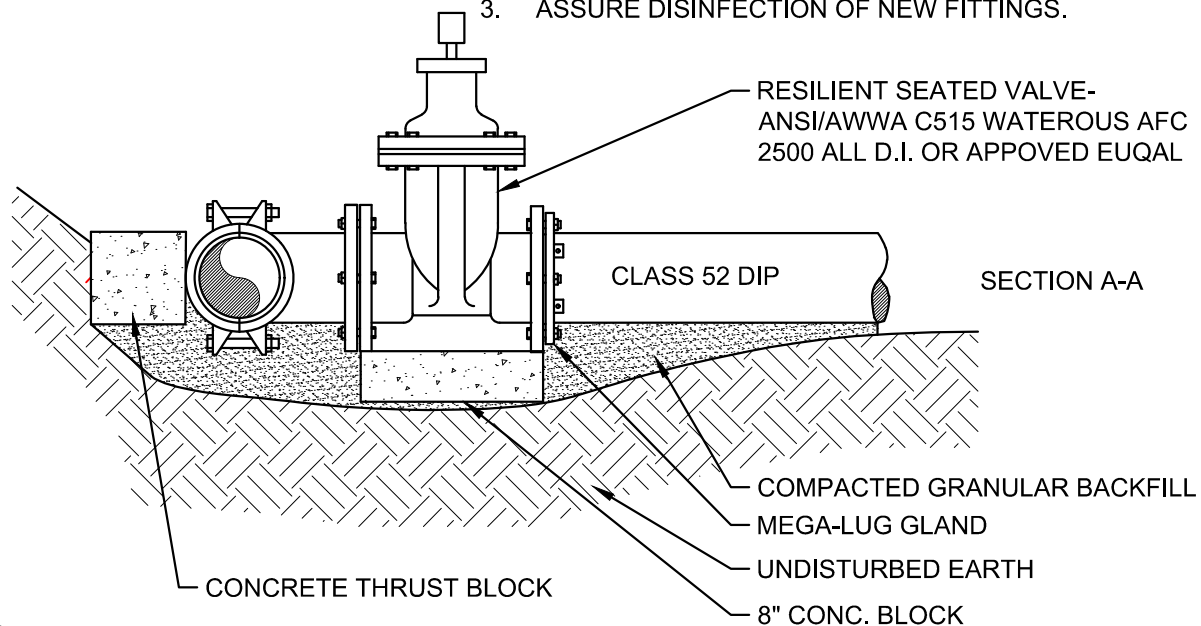
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PLATE NO.
WAT-2



NOTES:

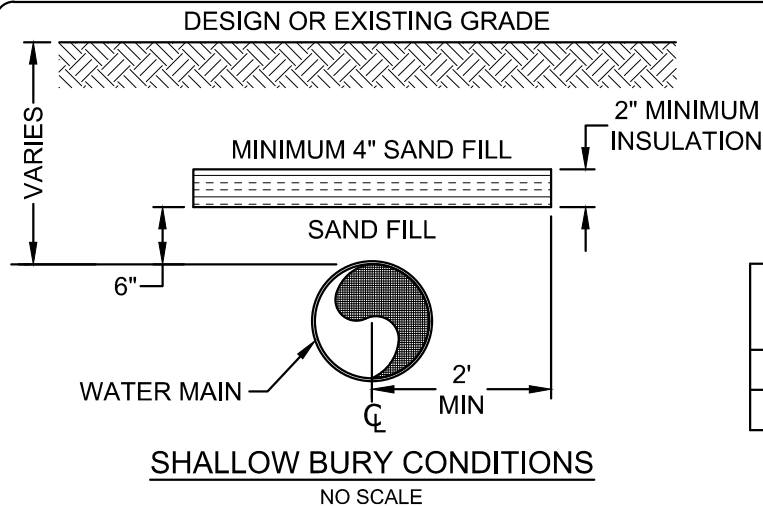
1. ANTI-CORROSIVE PROTECTION COATING REQUIRED ON ALL GRINDED AND WELDED AREAS.
2. 7.5' COVER REQUIRED OVER TOP OF WATER MAIN. ANY THING <7.5' OR >8.5' SHALL REQUIRE APPROVAL OF THE CITY.
3. ASSURE DISINFECTION OF NEW FITTINGS.



WATER MAIN WET TAP

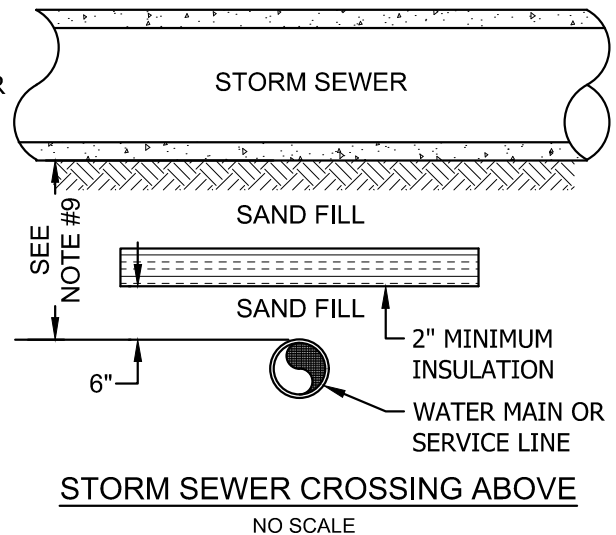
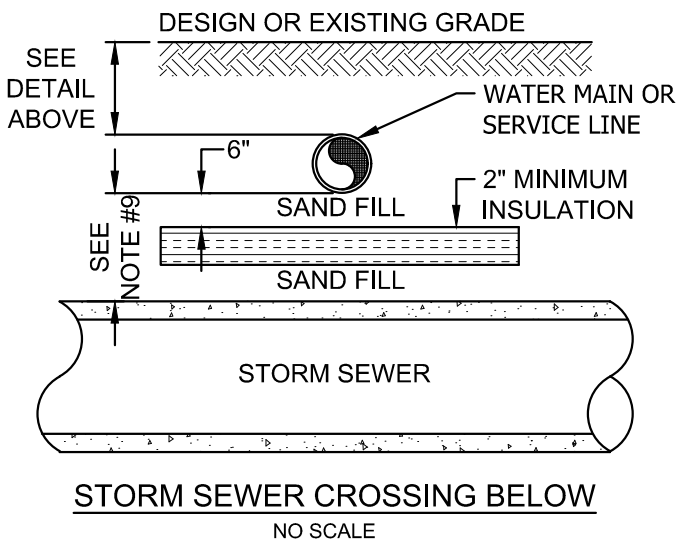
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PLATE NO.
WAT-3



WIDTH OF INSULATION BETWEEN WATER MAIN AND STORM SEWER

STORM SEWER	WATER LINE	
	1" TO 4"	6" TO 12"
12" TO 48"	2'	4'
54" & LARGER	4'	8'



NOTES:

1. INSULATION SHALL BE CENTERED ON THE PIPE.
2. RIGID, EXTRUDED POLYSTYRENE BOARD INSULATION, CLOSED CELL (DOW CHEMICAL) OR APPROVED EQUAL.
3. THERMAL RESISTANCE (R): 5.0.
4. MINIMUM THICKNESS: 2 INCHES.
5. BOARD SIZE: 48"x96".
6. COMPRESSIVE STRENGTH: MINIMUM 25 psi.
7. WATER ABSORPTION IN ACCORDANCE WITH ANSI/ASTM D2842: 0.1 PERCENT BY VOLUME, MAXIMUM.
8. EDGES: SQUARE.
9. ALL STORM SEWER CONFLICTS OR INTERSECTIONS SHALL BE INSULATED AS APPROVED BY FIELD ENGINEER TO EQUATE TO 7.5 FEET OF MINIMUM COVER (1 INCH CLOSED CELL INSULATION = 1 FOOT OF SOIL).
10. INSULATION LENGTH ALONG WATER LINE SHALL BE A MINIMUM OF 4 FEET GREATER THAN THE OUTSIDE DIAMETER OF THE STORM SEWER PIPE.



INSULATION DETAIL

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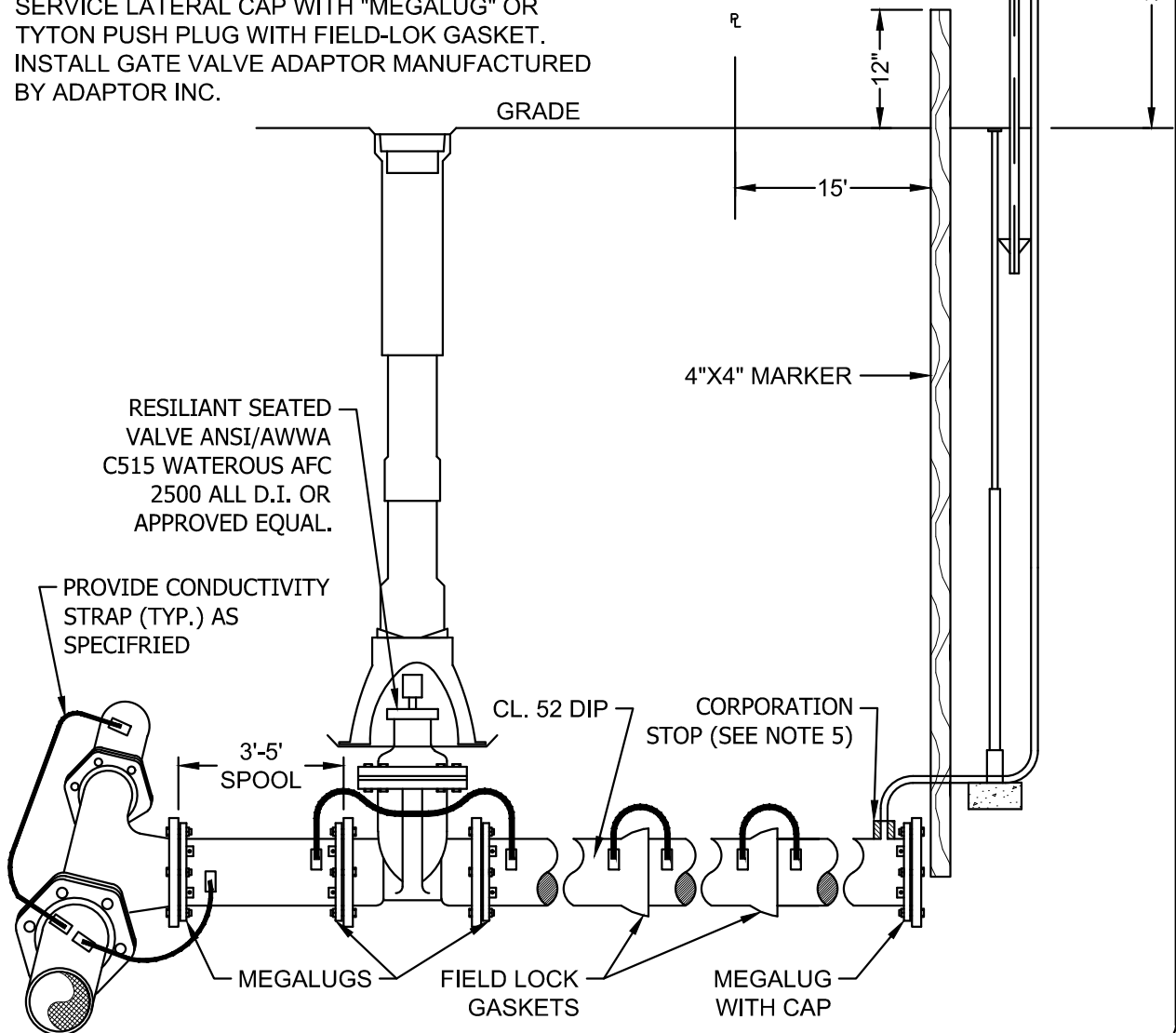
PLATE NO.
WAT-4

NOTES:

1. 7.5' MINIMUM COVER REQUIRED OVER TOP OF WATER MAIN.
2. "MEGA LUG" THRUST RESTRAINT GLAND TO BE USED ON ALL MECHANICAL JOINTS
3. ALL BOLTS ON VALVES BELOW GRADE MUST BE CHECKED FOR TIGHTNESS.
4. ALL TYTON PUSH JOINTS FROM VALVE TO END OF SERVICE SHALL BE FIELD-LOK JOINTS OR APPROVED EQUAL.
5. INSTALL 1" CORPORATION, CURB STOP AND STAND WITH 1" COPPER PIG TAIL (ALL POSITIVE GRADE) TO 24" ABOVE GRADE.
6. ALL JOINTS IN THE SERVICE LATERAL SHALL BE RESTRAINED TO THE TEE.
7. TAP CORPORATION STOP AT 12:00, 12" TO 18" FROM END OF SERVICE.
8. SERVICE LATERAL CAP WITH "MEGALUG" OR TYTON PUSH PLUG WITH FIELD-LOK GASKET.
9. INSTALL GATE VALVE ADAPTOR MANUFACTURED BY ADAPTOR INC.

COPPER END FLARED AND
INSTALLED WITH FLARE
NUT AND FLARE PLUG

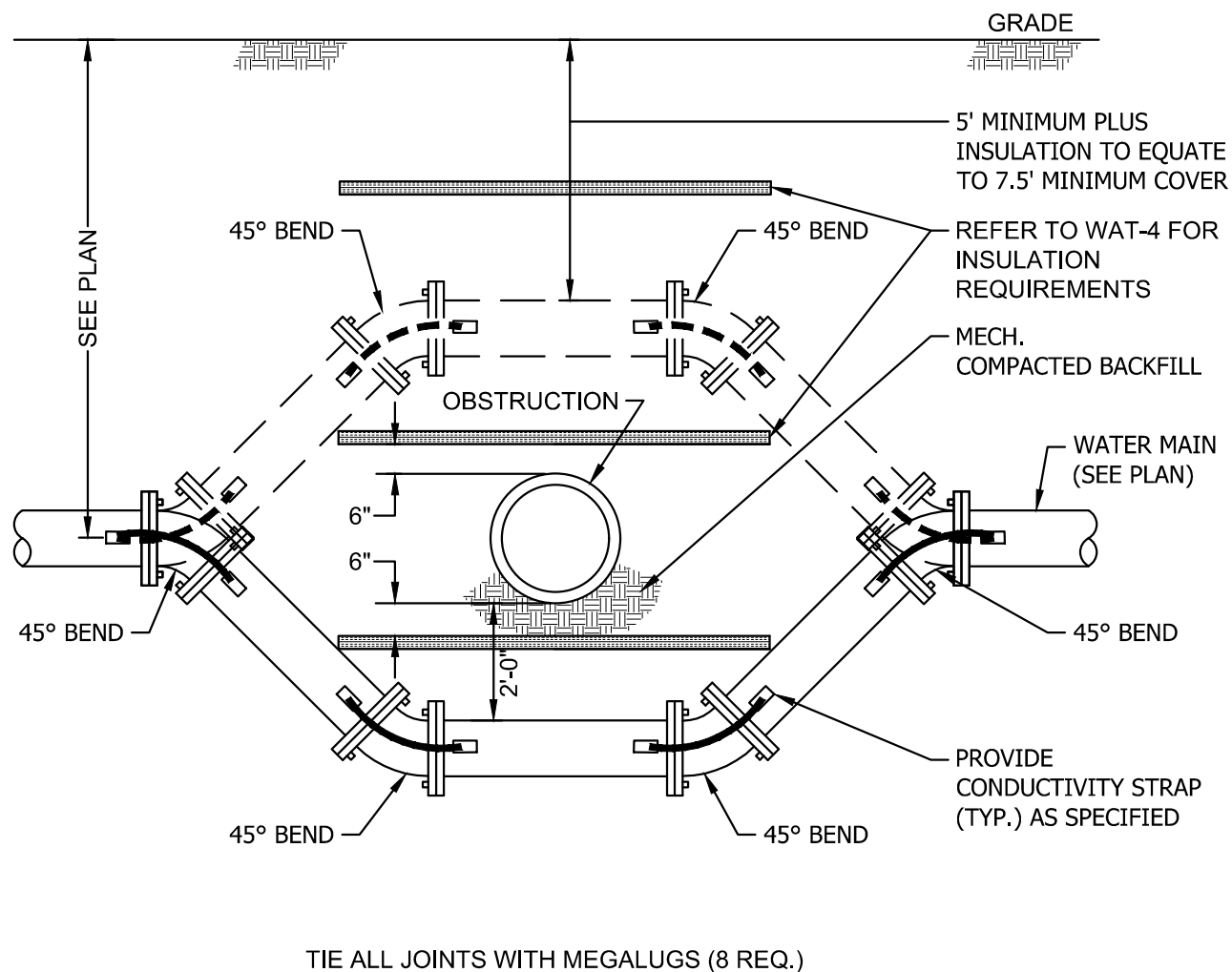
T-STYLE STEEL FENCE
POST 4' ABOVE GRADE
(PAINTED BLUE).



GATE VALVE ON DIP SERVICE

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PLATE NO.
WAT-5



NOTE:

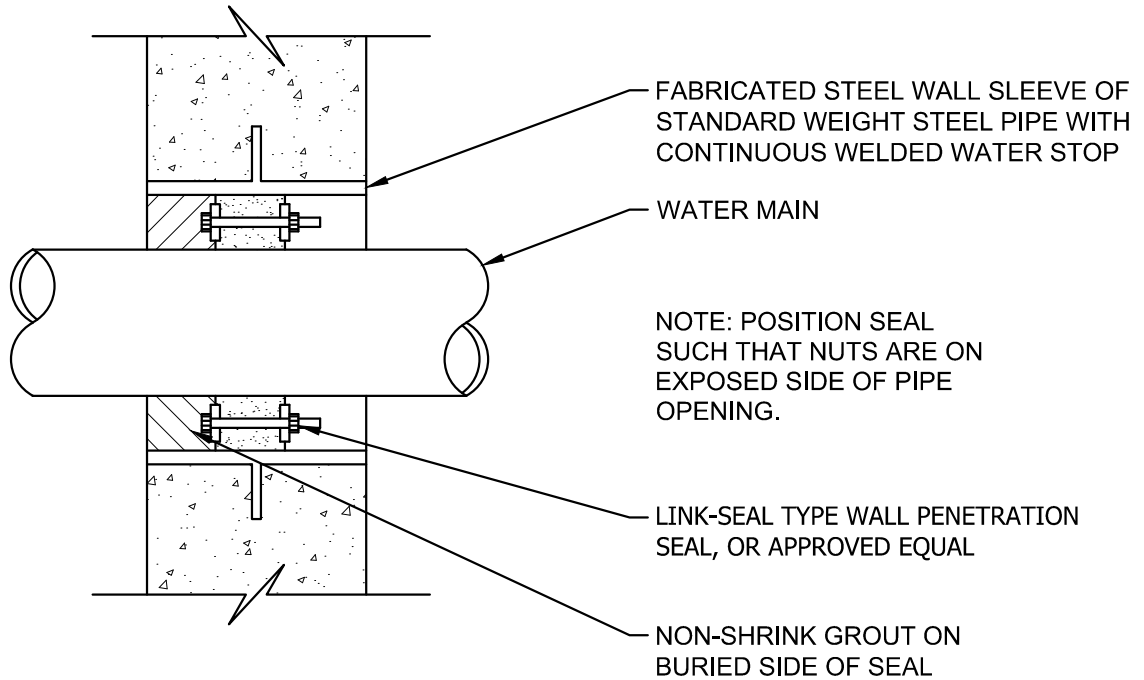
1. WATER MAIN OFFSET SHALL BE OVER OBSTRUCTION IF 5' MINIMUM COVER PLUS INSULATION TO EQUATE TO 7.5' COVER CAN BE ACHIEVED.
2. ADDITIONAL INSULATION BETWEEN WATER MAIN AND OBSTRUCTED PIPE MAY BE REQUIRED AS PER DETAIL PLATE WAT-4.



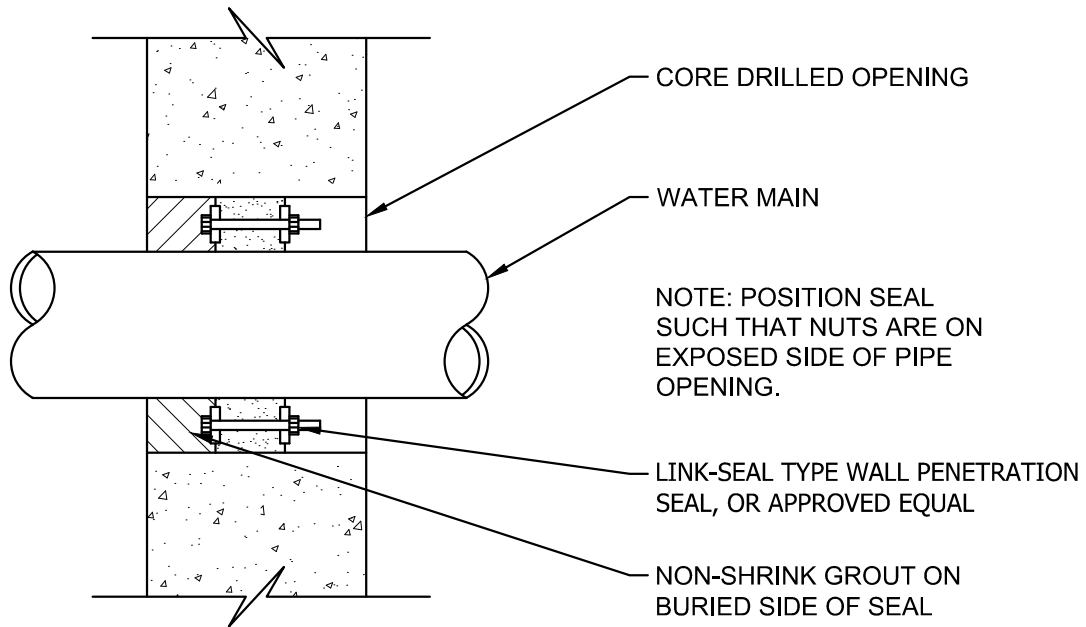
WATER MAIN OFFSET WITH MEGALUGS

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PLATE NO.
WAT-6



NEWLY POURED CONCRETE WALL, FOUNDATION OR BULKHEAD



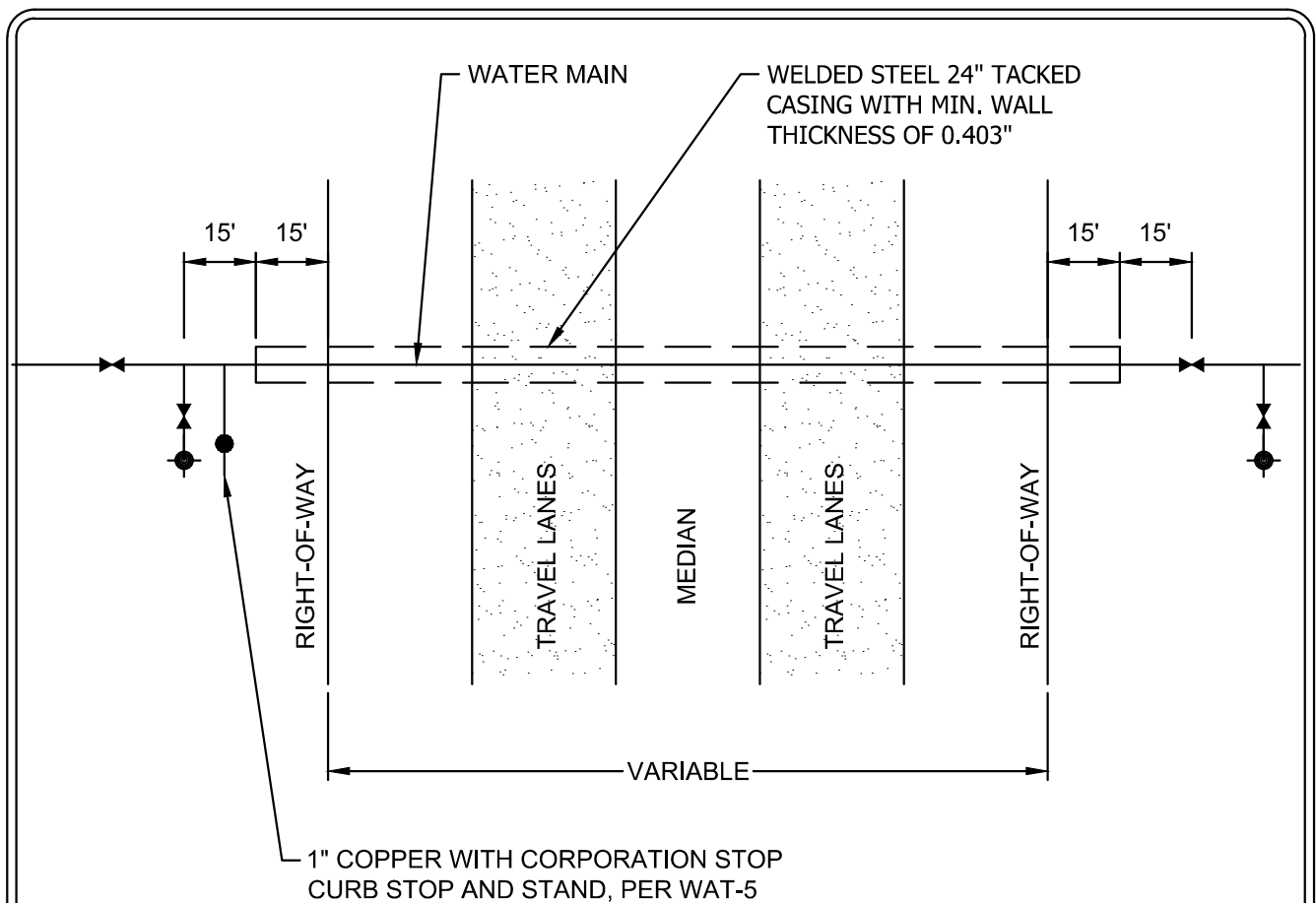
EXISTING CONCRETE WALL, FOUNDATION OR BULKHEAD



WATER MAIN PENETRATION OF WALL,
FOUNDATION OR BULK HEAD

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PLATE NO.
WAT-7



NOTES:

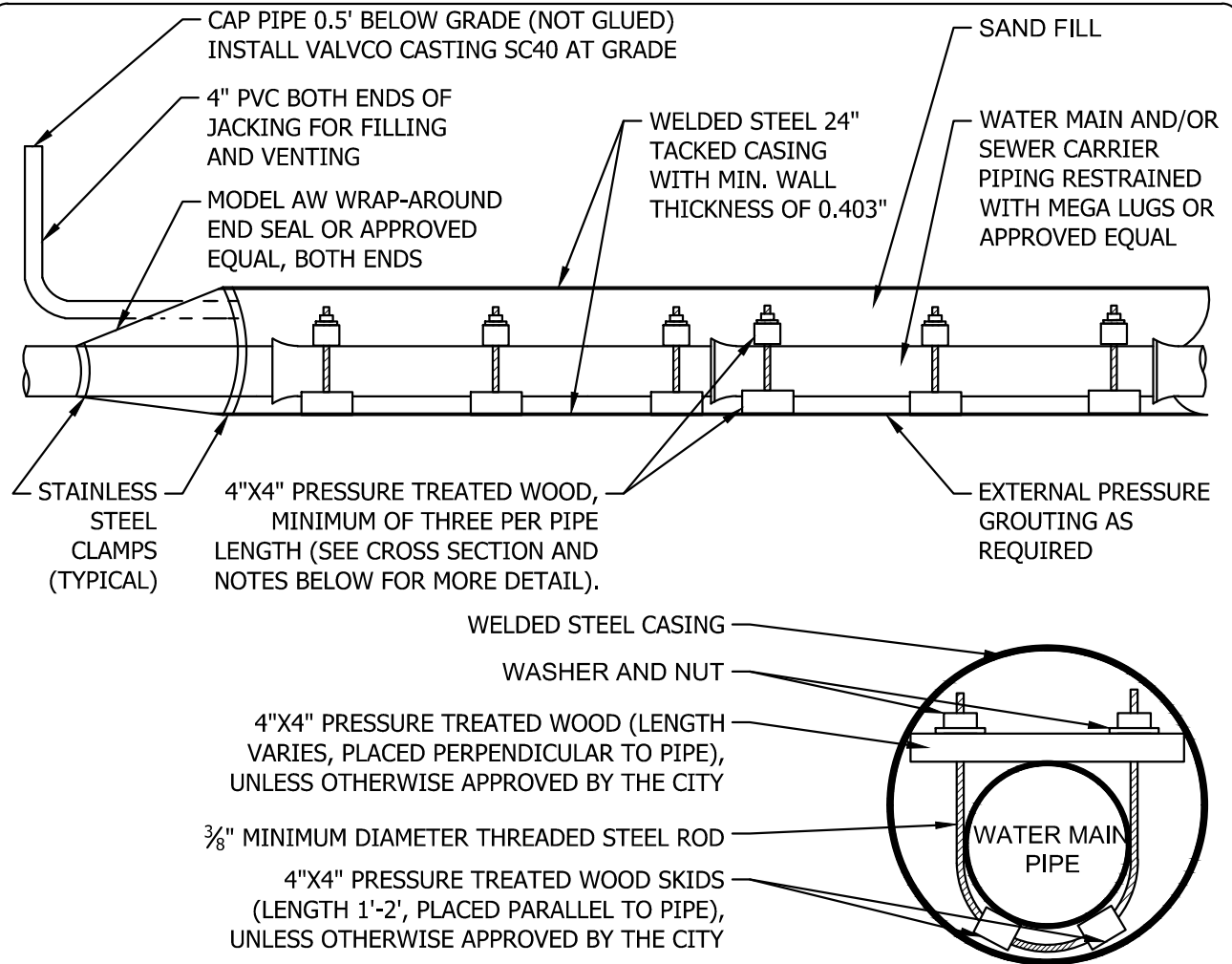
1. ALL JOINTS SHALL BE RESTRAINED WITH MEGA LUGS, OR APPROVED EQUAL, AND UTILIZE FULL PIPE LENGTHS.
2. PIPE SHALL BE SUPPORTED BY 4"X4" PRESSURE TREATED WOOD AND $\frac{3}{8}$ " MINIMUM DIAMETER THREADED STEEL ROD, UNLESS OTHERWISE APPROVED BY THE CITY, MINIMUM OF THREE SUPPORTS PER PIPE LENGTH (SEE DETAIL PLATE WAT-10 FOR MORE DETAIL).
3. SILICA SAND SHALL FILL VOID IN CASING.
4. A MODEL AW WRAP-AROUND END SEAL, OR APPROVED EQUAL, SHALL BE UTILIZED ON ENDS OF CASING AND REDUCED TO CARRIER PIPE.
5. VERTICAL ALIGNMENT SHALL MAINTAIN 7.5 FEET MINIMUM COVER OVER WATER MAIN BELOW LOWEST DITCH ELEVATION OF ROADWAY CROSS SECTION OR AS APPROVED BY THE CITY.
6. MARK END WITH POST AND MARKER, PER DETAIL PLATE WAT-12.
7. VENTS SHALL BE INSTALLED UTILIZING VALVCO CASTING SC40 AT GRADE (WITH WATER OR SEWER LID), OR APPROVED EQUAL.
8. FOR CROSSINGS INVOLVING STATE RIGHT-OF-WAYS, DIMENSIONS SHOWN ABOVE SHALL APPLY TO THE BUFFER SETBACK ZONES (NOT THE RIGHT-OF-WAY LINES).



ENCASED WATER MAIN CROSSING

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PLATE NO.
WAT-8



NOTES:

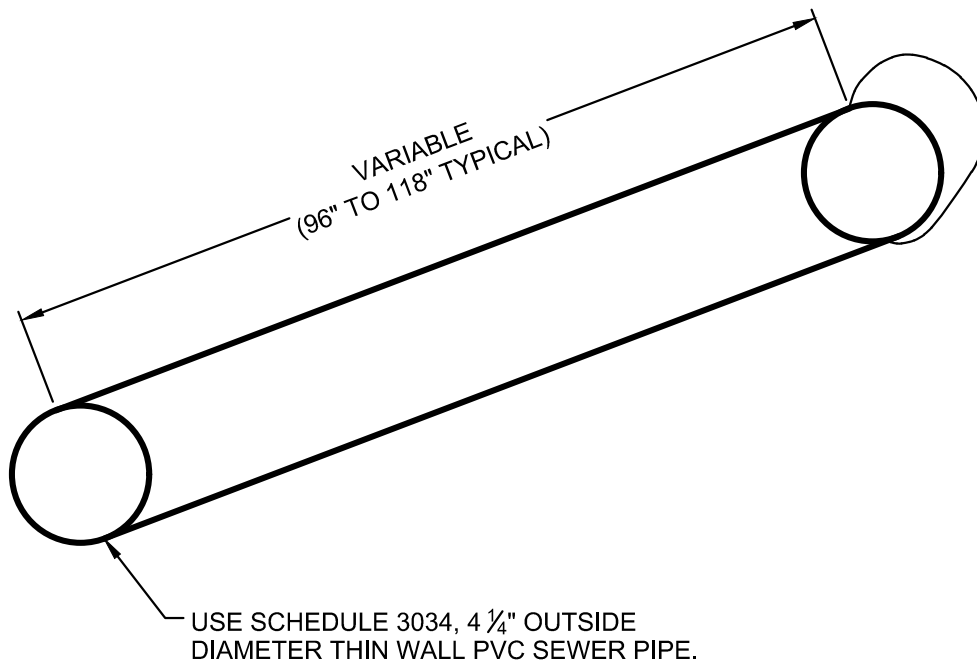
1. ALL JOINTS SHALL BE RESTRAINED WITH MEGA LUGS, OR APPROVED EQUAL, AND UTILIZE FULL PIPE LENGTHS.
2. PIPE SHALL BE SUPPORTED BY 4"x4" PRESSURE TREATED WOOD AND $\frac{3}{8}$ " MINIMUM DIAMETER THREADED STEEL ROD, UNLESS OTHERWISE APPROVED BY THE CITY, MINIMUM OF THREE SUPPORTS PER PIPE LENGTH (SEE ABOVE DIAGRAM FOR MORE DETAIL).
3. SILICA SAND SHALL FILL VOID IN CASING.
4. A MODEL AW WRAP-AROUND END SEAL, OR APPROVED EQUAL, SHALL BE UTILIZED ON ENDS OF CASING AND REDUCED TO CARRIER PIPE.
5. VERTICAL ALIGNMENT SHALL MAINTAIN 7.5 FEET MINIMUM COVER OVER WATER MAIN BELOW LOWEST DITCH ELEVATION OF ROADWAY CROSS SECTION OR AS APPROVED BY THE CITY ENGINEER.
6. MARK END WITH POST AND MARKER, PER DETAIL PLATE WAT-12.
7. VENTS SHALL BE INSTALLED UTILIZING VALVCO CASTING SC40 AT GRADE (WITH WATER OR SEWER LID), OR APPROVED EQUAL.
8. INSTALL APPURTENANCES IN THE LOCATIONS SHOWN PER DETAIL PLATE WAT-9.



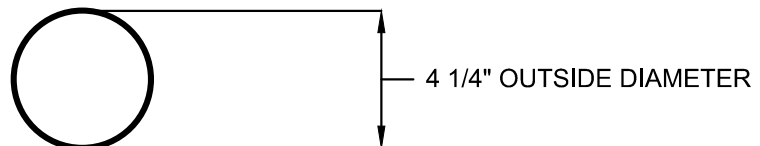
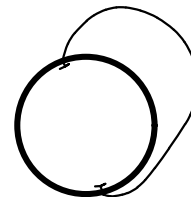
JACKING

LAST REVISION:
March 2019

PLATE NO.
WAT-9



ROPE END TO BE LEFT OPEN TO
INSPECT GATE VALVE OPERATING NUT.
LOOP ROPE INSIDE OF PVC AND TIE
OFF WITH KNOTS.



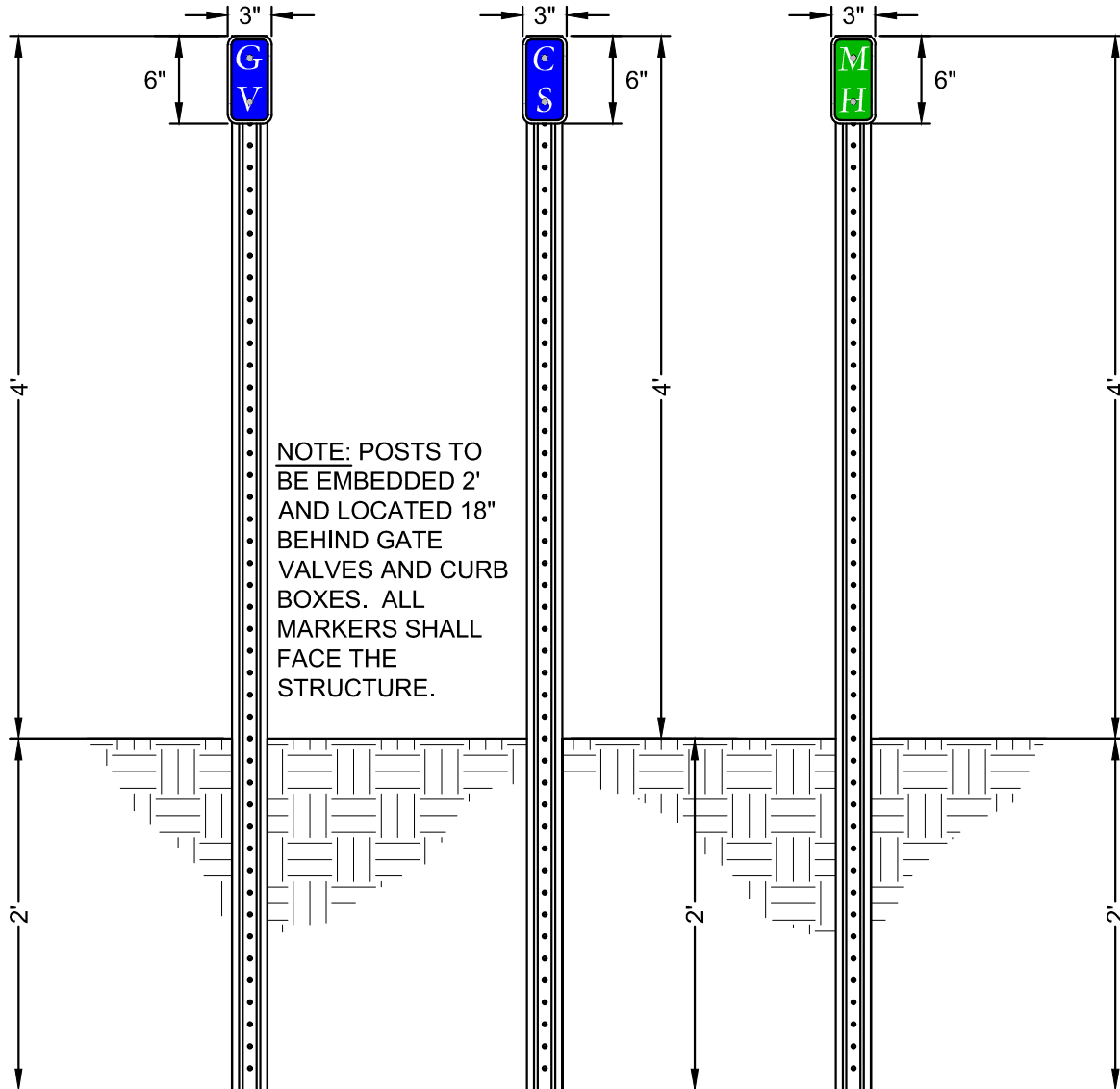
GATE VALVE ALIGNMENT TOOL

LAST REVISION:
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PLATE NO.
WAT-10

NOTES:

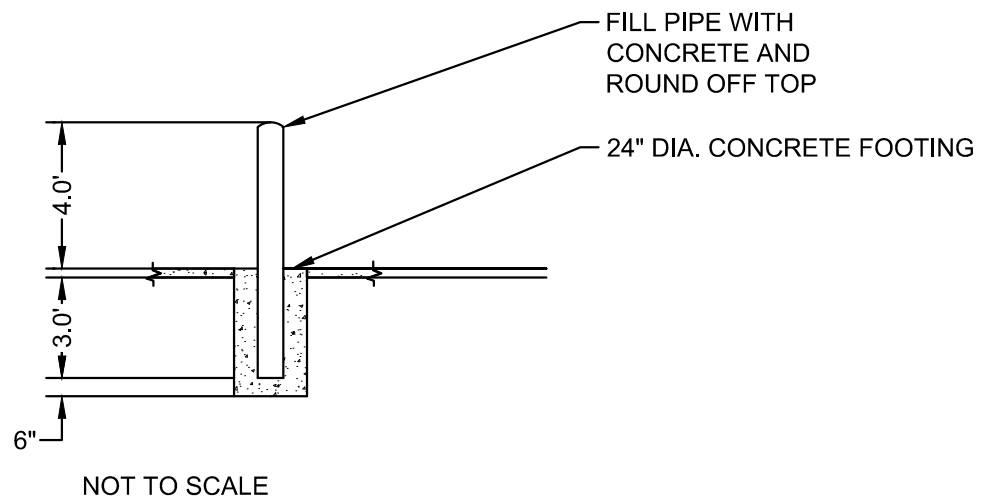
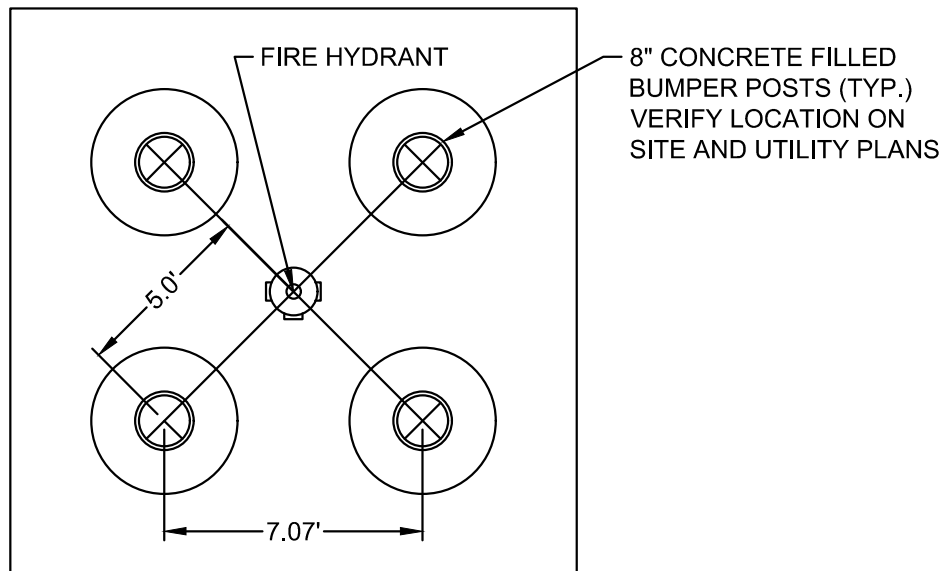
1. ALL MANHOLES INSTALLED OUTSIDE THE ROADWAY (SUCH AS RIGHT-OF-WAYS AND EASEMENTS) SHALL BE MARKED WITH A GREEN METAL SIGN LABELED "MH" IN WHITE LETTERS.
2. ALL GATE VALVES INSTALLED OUTSIDE THE ROADWAY (SUCH AS RIGHT-OF-WAYS AND EASEMENTS) SHALL BE MARKED WITH A BLUE METAL SIGN LABELED "GV" IN WHITE LETTERS.
3. ALL CURB BOXES LOCATED IN UNIMPROVED RIGHT-OF-WAYS AND EASEMENTS SHALL BE MARKED WITH A BLUE METAL SIGN LABELED "CS" IN WHITE LETTERS.
4. SIGNS SHALL BE MOUNTED TO A U-STYLE STEEL POST 4' ABOVE GRADE WITH TWO SETS OF STAINLESS STEEL BOLTS, WASHERS AND NUTS.
5. ALL METAL SIGN SHALL BE A MINIMUM OF 0.063" THICK. ALL STEEL POSTS SHALL BE A MINIMUM OF 1.2 LB/FT.



**GATE VALVE, CURB STAND, AND
MANHOLE MARKERS
WITH STEEL POSTS**

LAST REVISION:
March 2019

PLATE NO.
WAT-11



NOTES:

1. 8" DIA. CLASS 52 D.I. PIPE (1) COAT OF PRIMER, FOLLOWED BY (3) COATS OF SAFETY YELLOW PAINT.
2. BOLLARDS SUPPLIED BY CONTRACTOR



HYDRANT BOLLARDS

LAST REVISION:
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WAT-12

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SECTION 3 - SERVICES

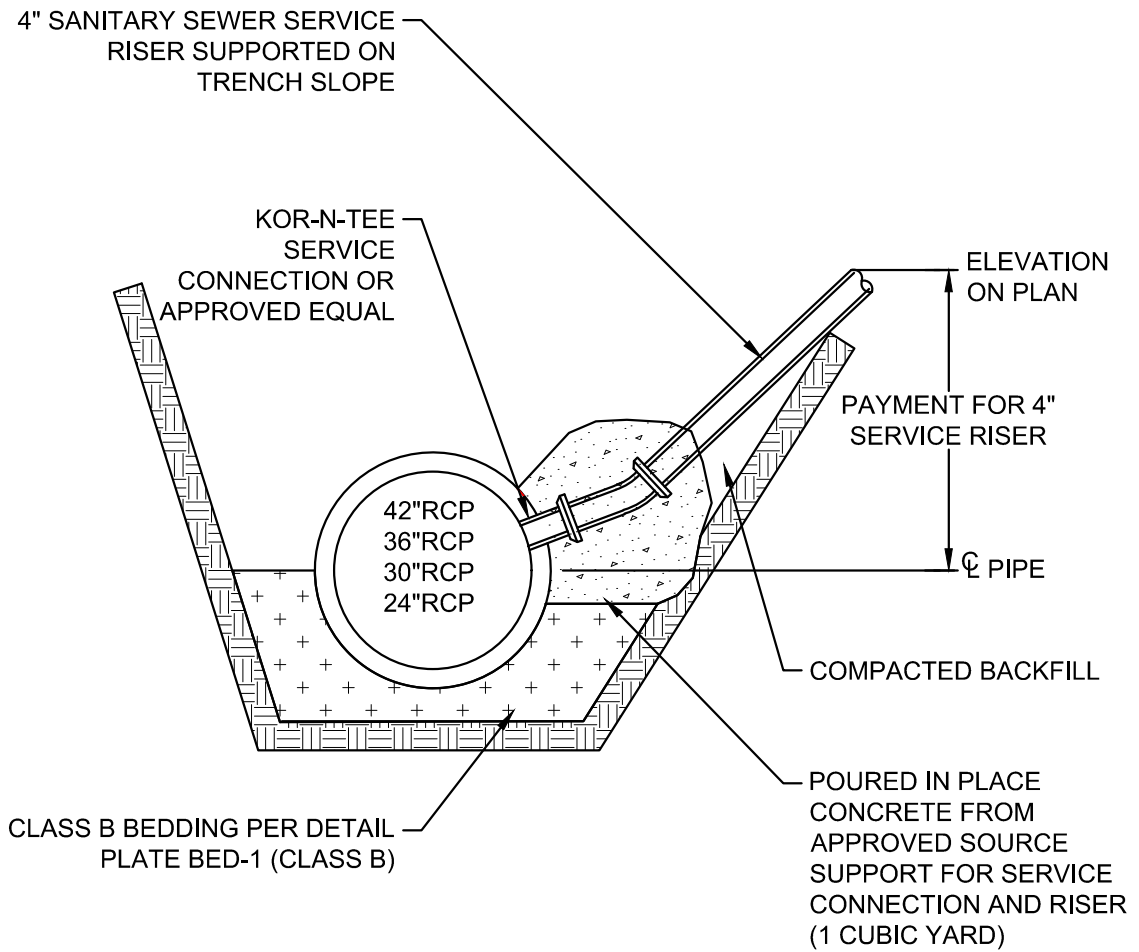
SER-1	SERVICE CONNECTION TO RCP
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SER-4	MULTI-FAMILY SEWER AND WATER SERVICE
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SER-11	TYPICAL UTILITIES - JOINT TRENCH CONSTRUCTION



SECTION 3 - SERVICES INDEX

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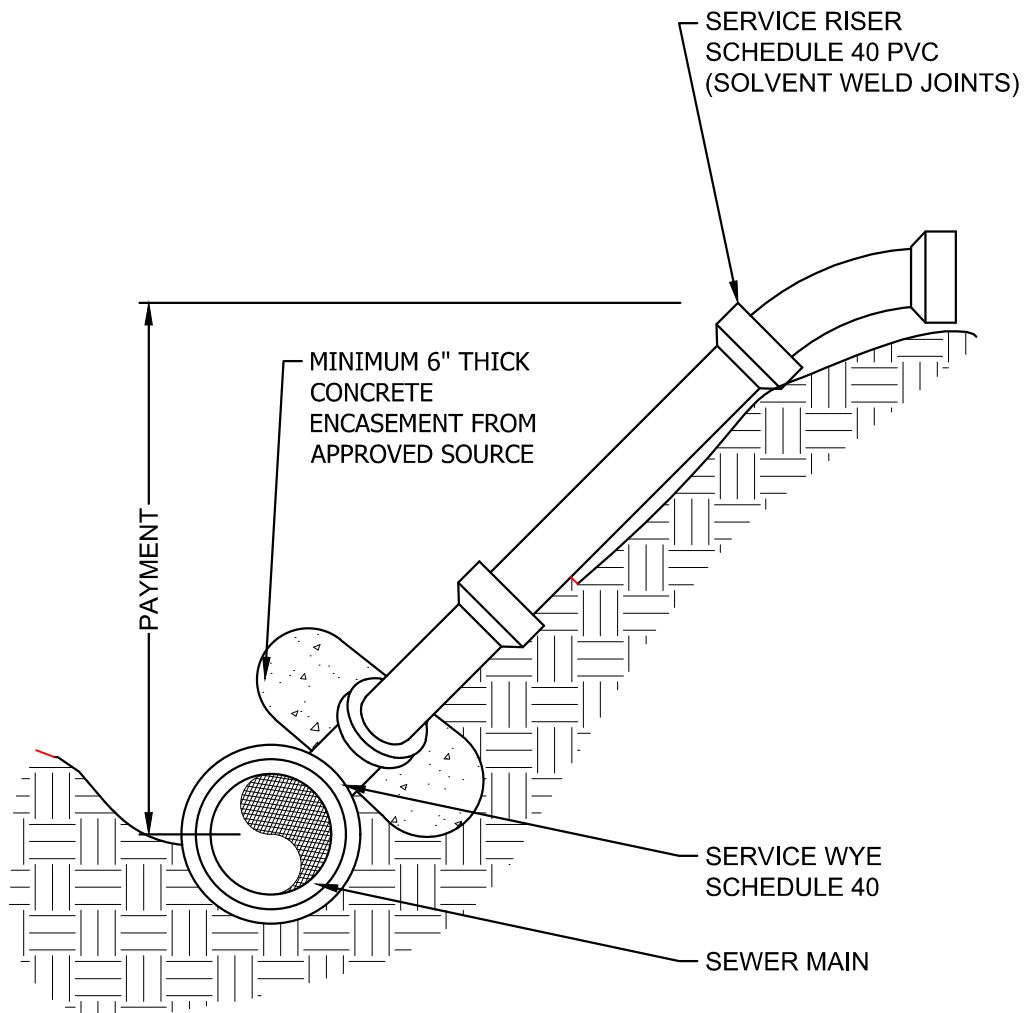
NOTE: INSTALL ALL CITY OF HUDSON SERVICES AT 10 & 2 O'CLOCK POSITIONS



SERVICE CONNECTION TO RCP

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SER-1



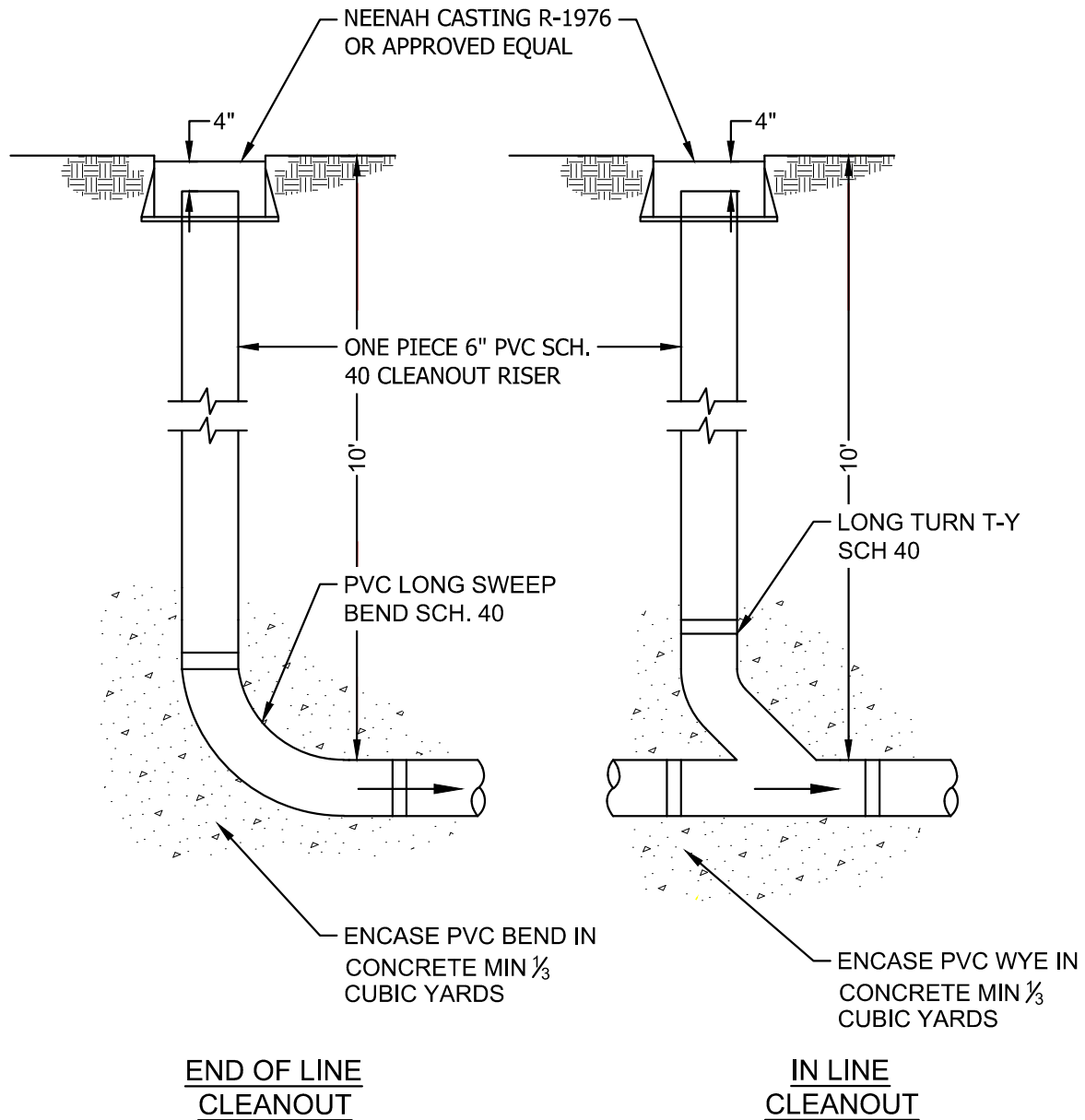
NOTE: INSTALL ALL CITY OF HUDSON SERVICES AT 10 & 2 O'CLOCK POSITIONS



SERVICE RISER

LAST REVISION:
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PLATE NO.
SER-2



NOTES:

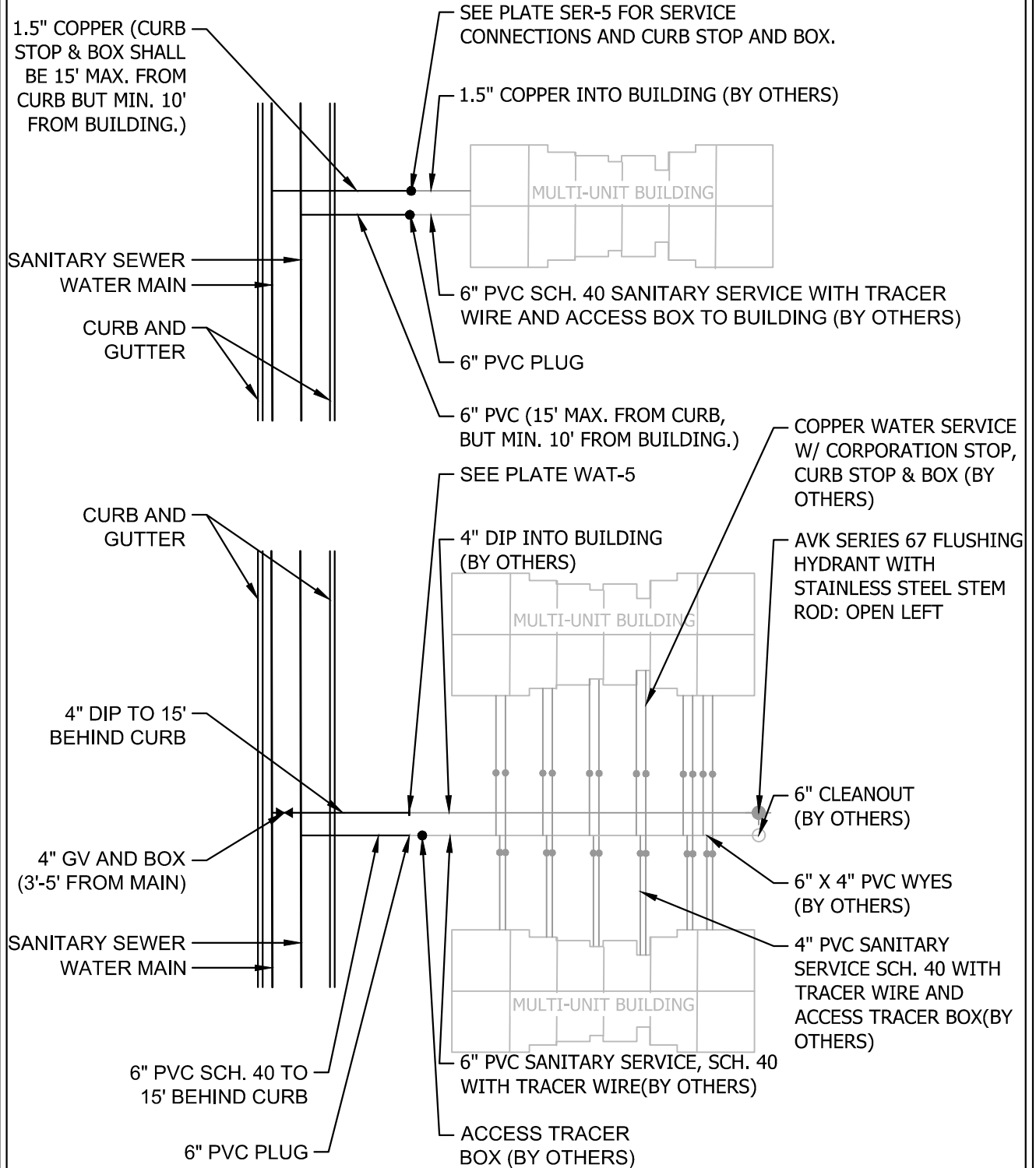
1. UTILIZE NEENAH R-1976 CASTING, OR APPROVED EQUAL, SET 1/2" LOWER THAN ADJACENT FINISHED GRADE.
2. TERMINATE PVC 4" BELOW TOP OF CASTING.
3. ENCLOSE LONG SWEEP BEND OR COMBINATION WYE IN CONCRETE AS SHOWN.
4. INSTALL RISER ACCORDING TO APPLICABLE PLUMBING CODE.



SERVICE LINE CLEANOUTS

LAST REVISION:
March 2019

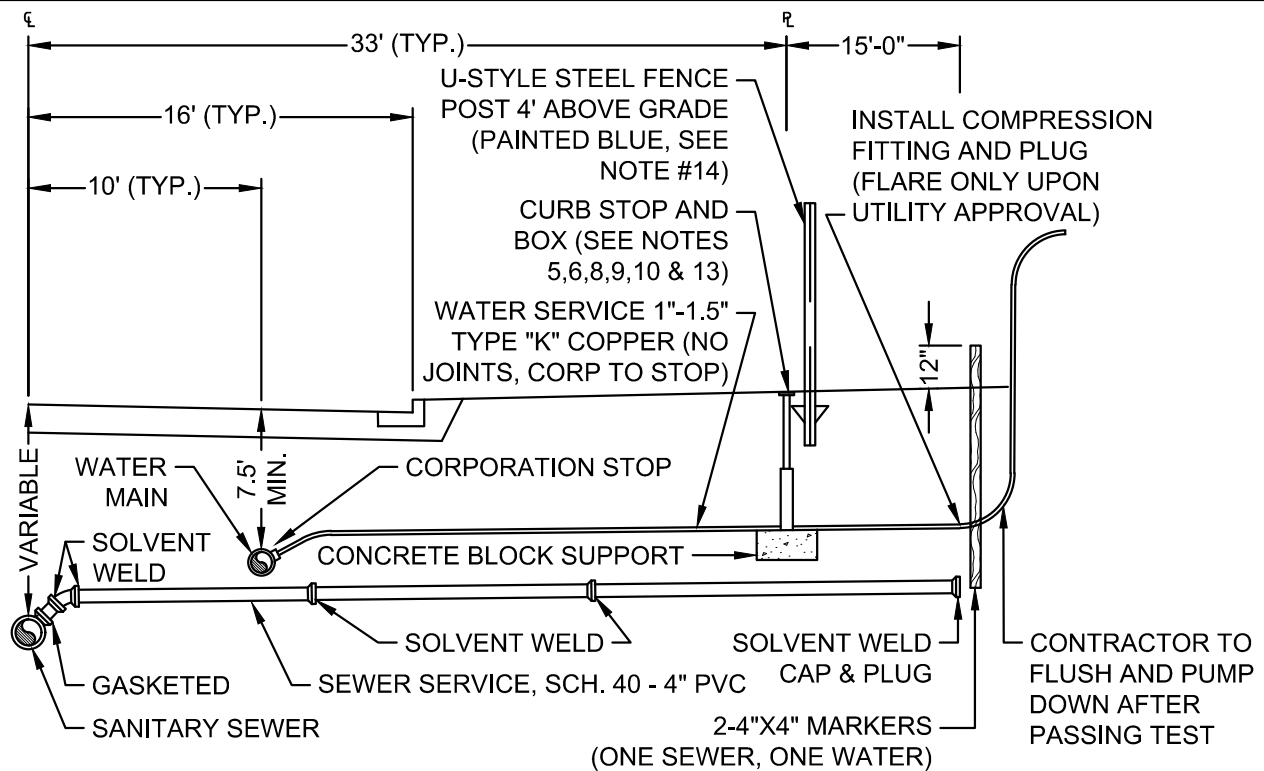
PLATE NO.
SER-3



MULTI FAMILY SEWER AND WATER SERVICE

LAST REVISION:
July 2019

PLATE NO.
SER-4



NOTES:

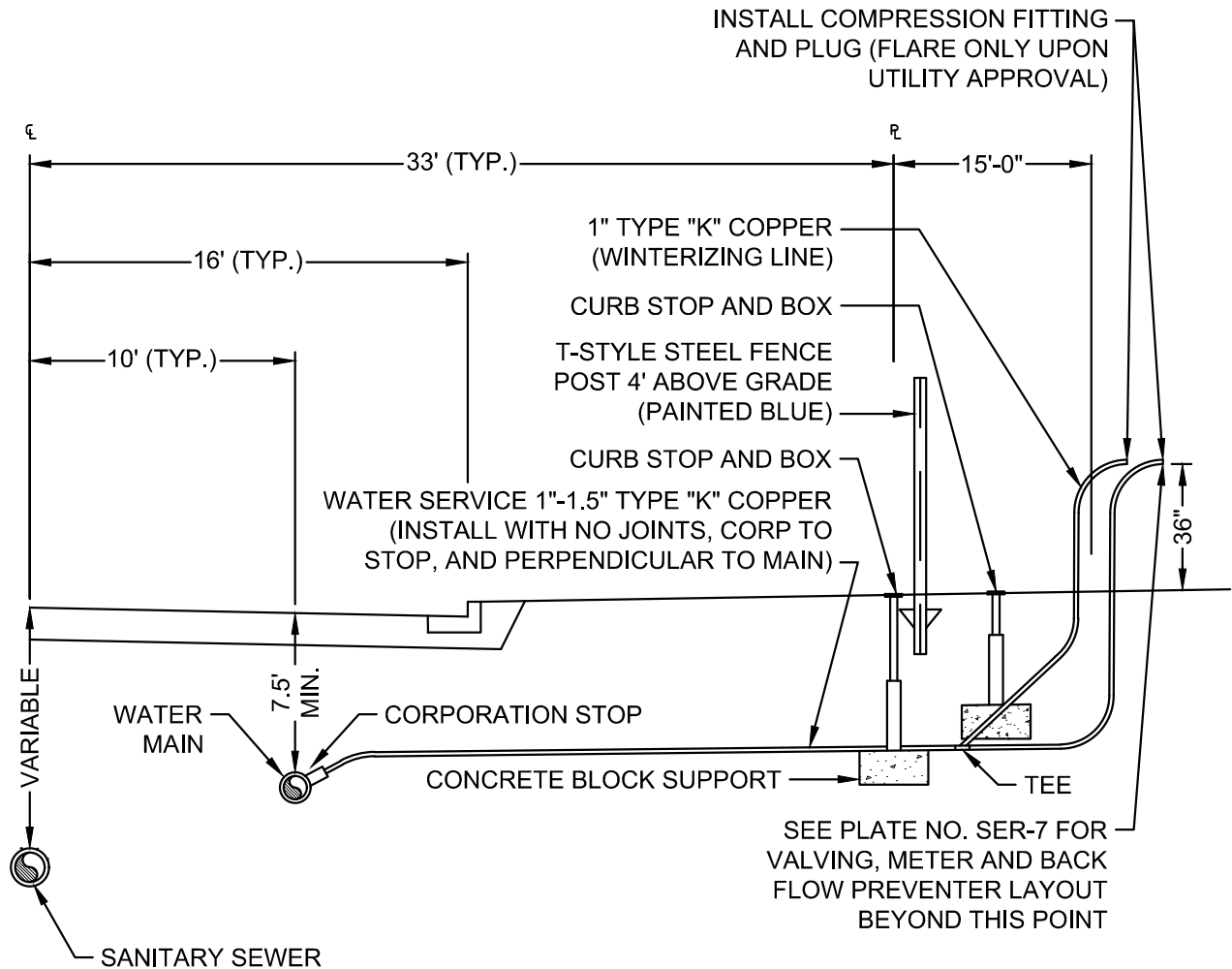
1. SEWER SERVICES, SCHEDULE 40 - 4" AND 6" PVC.
2. SLOPE - 1/4" PER FOOT MINIMUM (REFERENCE TO PROPOSED HOUSE PAD ASSURING GRAVITY FLOW TO PROPOSED BUILDING OR HOUSE) CONTRACTOR TO SUPPLY EXACT END OF SERVICE ELEVATION & LOCATION.
3. PIPE JOINTS AND FITTINGS AFTER WYE BRANCH SHALL BE NON GASKETED, SOLVENT WELD TYPE.
4. ALL PIPE SHALL BE BEDDED IN GRANULAR BORROW 209.2.2 GRADE 1 OR COURSE FILTER AGGREGATE (501.3.6.4.5 SIZE NO. 1 CRUSHED)
5. CURB BOX SHALL EXTEND FROM 78" TO 90" AND INSTALLED TO BE ADJUSTABLE 6" UP AND DOWN FROM FINISHED GRADE.
6. ADJUST CURB BOX TO 1" BELOW FINISH GRADE.
7. 1-1/4" AND 1-1/2" TAPS (AND ANY SIZE TAPS IN 4" D.I.P.) SHALL BE INSTALLED WITH DOUBLE STRAP TAPPING SERVICE SADDLE, FORD STYLE F202 (WITH AWWA CC THREADS) OR APPROVED EQUAL.
8. ALL CURB STOPS AND CORPORATION STOPS SHALL BE IN THE **OPEN** POSITION DURING THE PRESSURE TEST.
9. CORPORATION STOP (AWWA CC THREADS): MUELLER 300 BALL B-25008 OR APPROVED EQUAL.
CURB STOP: MUELLER 300 BALL B25154, B25155 OR APPROVED EQUAL.
CURB BOX (MINNEAPOLIS PATTERN): 1" SERVICE - MUELLER H10300 (1-1/4" UPPER SECTION) OR APPROVED EQUAL.
1-1/2" SERVICE: MUELLER H10302 (1-1/2" UPPER SECTION) OR APPROVED EQUAL.
10. CURB BOXES IN BITUMINOUS OR CONCRETE SHALL BE INSTALLED UTILIZING VALVCO CASTING SC40(WITH WATER LID), OR APPROVED EQUAL.
11. SERVICE FITTING COUPLINGS UTILIZED FROM CURB STOP TO BUILDING SHALL BE MUELLER H-15400, H-15430, OR APPROVED EQUAL.
12. WATER SERVICE SHALL BE TAPPED WITH WATER MAIN UNDER PRESSURE, AND LOCATED IN UPPER QUADRANT OF MAIN (2:00 O'CLOCK OR 10:00 O'CLOCK), OR LOCATION APPROVED BY THE CITY. THREADS SHALL BE DOUBLE WRAPPED WITH TEFLON TAPE PRIOR TO INSTALLATION. TAPPING BIT SHALL BE INSPECTED AND APPROVED BY THE CITY.
13. CURB BOX SHALL BE LOCATED AT PROPERTY LINE. FOR PRIVATE STREET/DRIVES, CURB BOX LOCATION SHALL BE A MAXIMUM OF 15' BEHIND CURB OR EDGE OF PAVEMENT, AND NO CLOSER THAN 10' FROM EDGE OF BUILDING. NO CURB BOX SHALL BE LOCATED IN CURB AND GUTTER OR CLOSER THAN 12" TO LIP OF GUTTER.
14. CURB BOXES LOCATED IN UNIMPROVED RIGHT-OF-WAYS AND EASEMENTS SHALL BE MARKED WITH U-STYLE STEEL POST 4' ABOVE GRADE WITH BLUE METAL SIGN LABELED "CS" IN WHITE LETTERS PER DETAIL WAT-11.



**SEWER AND WATER
SERVICE CONNECTIONS**

LAST REVISION:
March 2019

PLATE NO.
SER-5



NOTES:

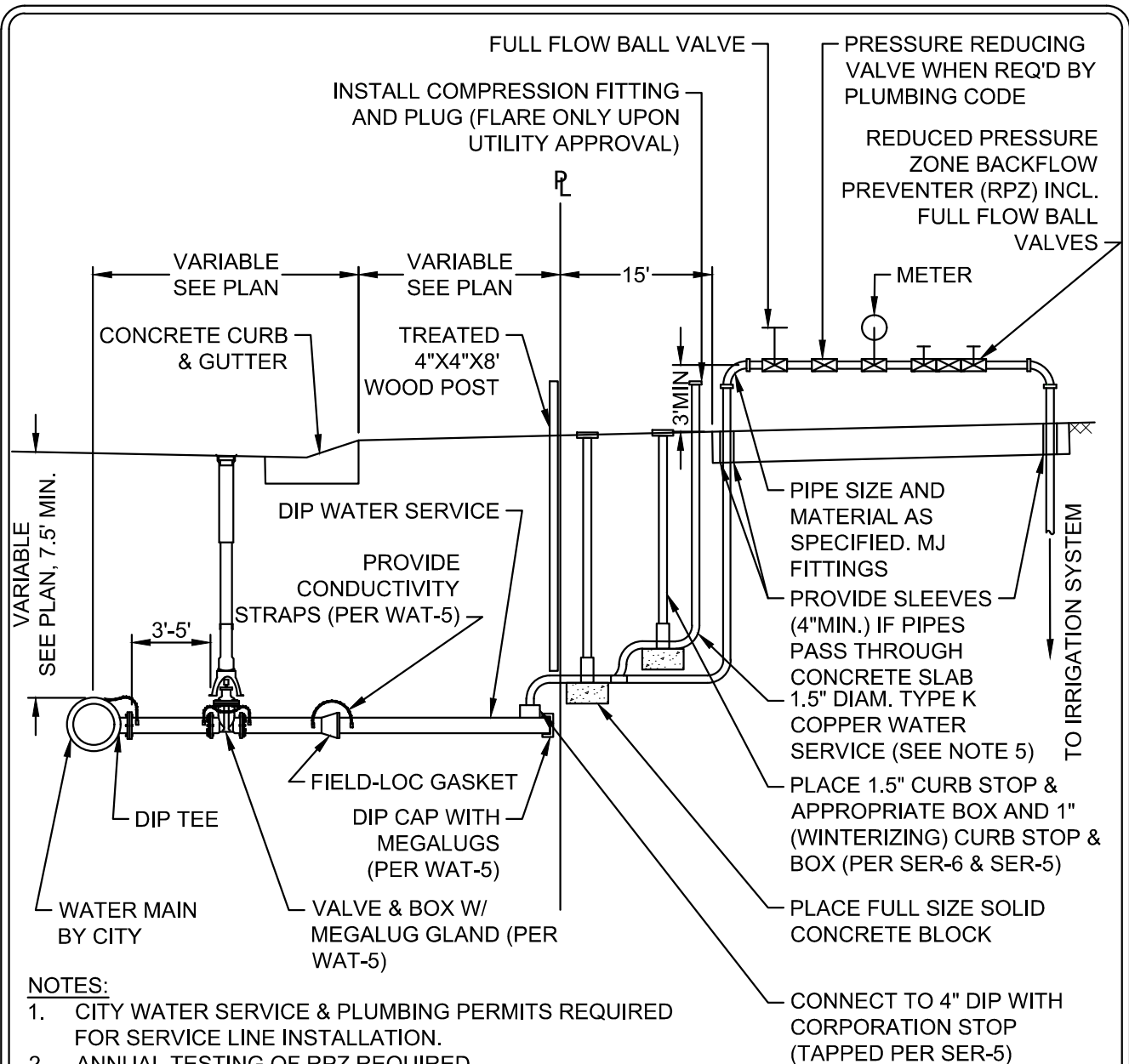
1. ALL PIPE SHALL BE BEDDED IN GRANULAR BORROW 209.2.2 GRADE 1 OR COURSE FILTER AGGREGATE (501.3.6.4.5 SIZE NO. 1 CRUSHED). IF PIPE IS TERMINATED 36" ABOVE GRADE, IT SHALL BE PROTECTED FROM ANY CONTAMINATIONS.
2. CURB BOX SHALL EXTEND FROM 78" TO 90".
3. ADJUST CURB BOX TO 1" BELOW FINISH GRADE.
4. 1 1/4" AND 1 1/2" TAPS (AND ANY SIZE TAPS IN 4" D.I.P.) SHALL BE INSTALLED WITH DOUBLE STRAP TAPPING SERVICE SADDLE, FORD STYLE F202 (WITH AWWA CC THREADS) OR APPROVED EQUAL.
5. CURB BOX INSTALLED IS TO BE ADJUSTABLE TO 6" UP OR DOWN FROM FINISHED GRADE. CORPORATION STOP (AWWA CC THREADS): MUELLER 300 BALL B-25008 OR APPROVED EQUAL. CURB STOP: MUELLER 300 BALL B25154, B25155 OR APPROVED EQUAL. CURB BOX (MINNEAPOLIS PATTERN): 1" SERVICE - MUELLER H10300 (1-1/4" UPPER SECTION) OR APPROVED EQUAL. 1-1/2" SERVICE - MUELLER H10302 (1-1/2" UPPER SECTION) OR APPROVED EQUAL.



**1" - 1 1/2" IRRIGATION
SERVICE REQUIREMENTS**

LAST REVISION:
March 2019

PLATE NO.
SER-6



NOTES:

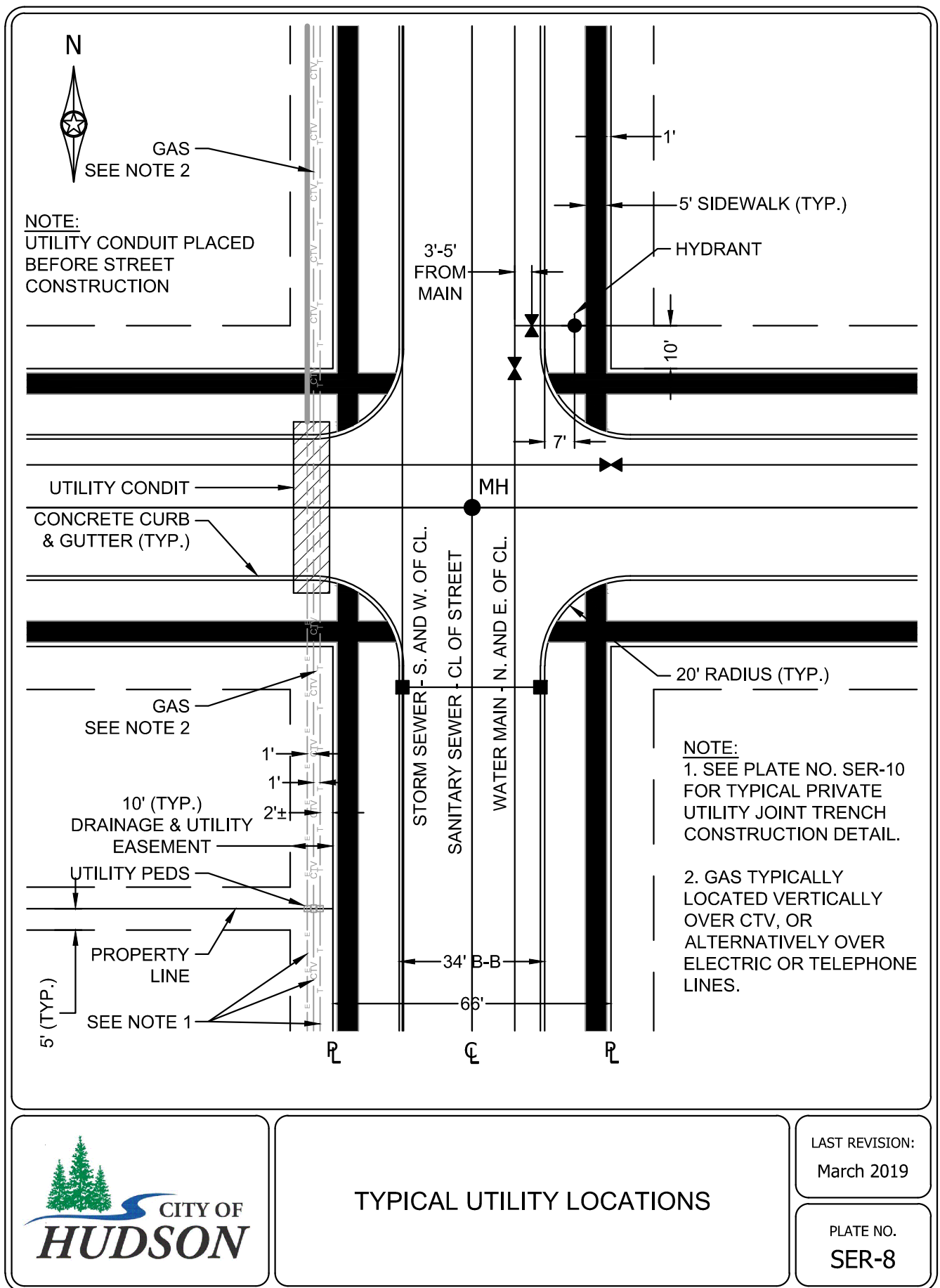
1. CITY WATER SERVICE & PLUMBING PERMITS REQUIRED FOR SERVICE LINE INSTALLATION.
2. ANNUAL TESTING OF RPZ REQUIRED.
3. REQUIRED EQUIPMENT MUST BE ENCLOSED AND SUPPORTED.
4. SLEEVES FOR PIPES IN CONCRETE SLABS SHALL BE PVC OR APPROVED EQUAL, AND A MINIMUM OF ONE NOMINAL SIZE LARGER IN DIAMETER THAN THE PIPE.
5. ANY COMPLETE D.I.P. SERVICES OF ANY SIZE SHALL BEND TO 36" MIN. ABOVE GROUND AND CONTINUE WITH VALVES, METER, RPZ BACKFLOW PREVENTER, ETC. OF THE PROPER SIZE. ALL JOINTS SHALL BE RESTRAINED.



**LARGE OUTDOOR
IRRIGATION SERVICE**

LAST REVISION:
March 2019

PLATE NO.
SER-7



TYPICAL UTILITY LOCATIONS

LAST REVISION:
March 2019

PLATE NO.
SER-8

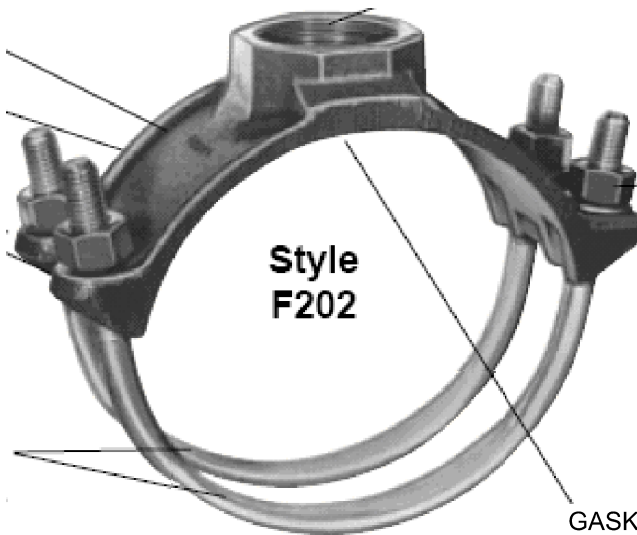
BODY: HIGH STRENGTH
DUCTILE IRON PER ASTM A
536

FINISH: BLACK E-COAT

ONE SIDE OF THE SADDLE
BODY HAS CLOSED BOLT
LUGS FOR EASY
INSTALLATION.

STRAPS: $\frac{5}{8}$ " AISI C1010
STEEL, ZINC PLATED WITH
DICHROMATE SEAL. EACH
STRAP HAS $\frac{5}{8}$ " FLAT
BEARING SURFACE. $\frac{1}{2}$ "
STRAPS ARE FURNISHED
ON SADDLES 3' OR
SMALLER.

THREADS: CC PER AWWA C800.



HEAVY HEX NUTS
AND WASHERS: $\frac{1}{2}$ "
OR $\frac{5}{8}$ " AISI STEEL
ALLOY, ZINC
PLATED, WITH
TRIVALENT SEAL.

GASKET: EPDM RUBBER.
ASTM-D2000

NOTES:

1. WATER SERVICE TAPPING SADDLE FOR DIP SHALL BE A DOUBLE STRAP FORD F202 OR APPROVED EQUAL. CITY ENGINEER SHALL PRE-APPROVE ALL TAPPING SADDLES PRIOR TO INSTALLATION.
2. THE CITY MUST APPROVE ALL SADDLE INSTALLATIONS. SADDLES MAY ONLY BE USED ON 1" TO $1\frac{1}{2}$ " SERVICES. ANY LARGER SERVICES MUST BE CUT-INS OR WET TAPPED TO WATERMAIN.
3. DOUBLE STRAP TAPPING SADDLES MUST BE USED ON SERVICE TAPS LARGER THAN 1", UNLESS APPROVED BY THE CITY.
4. DOUBLE STRAP TAPPING SADDLES SHALL BE USED ON ALL SERVICE TAPS INTO WATERMAIN 4 INCHES IN DIAMETER OR SMALLER, UNLESS APPROVED BY THE CITY.



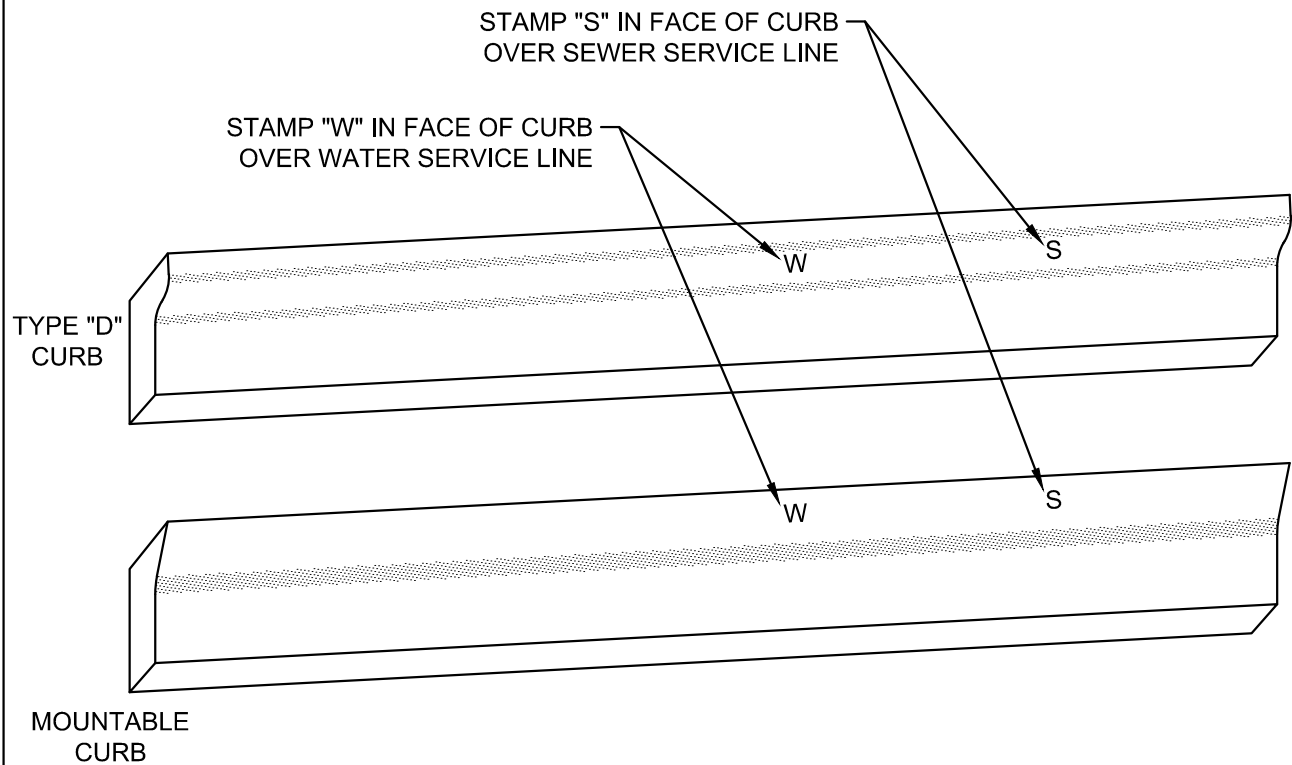
**DOUBLE STRAP TAPPING SADDLE
FOR WATER SERVICE (DIP WATER MAIN)**

LAST REVISION:
March 2019

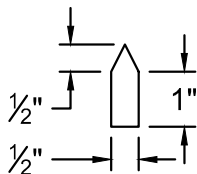
PLATE NO.
SER-9

NOTES:

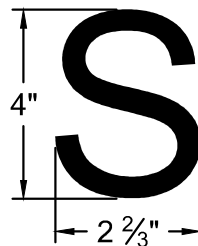
1. ALL NEW AND EXISTING WATER AND SEWER SERVICE LOCATIONS SHALL BE MARKED IN CURB AS SHOWN. STAMPING OF SERVICE LOCATIONS SHALL BE CONSIDERED INCIDENTAL TO THE PRICE OF THE CURB.
2. W'S AND S'S NOT PLACED BY SPECIFIED STAMP WILL NOT BE ACCEPTED AND THAT SECTION OF CURB MUST BE REMOVED AND REPLACED.



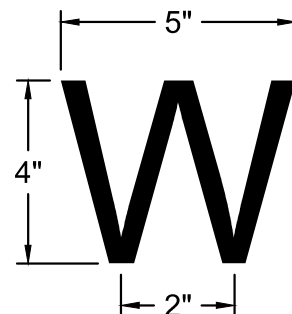
STAMP
CROSS SECTION



"S" STAMP
DETAIL



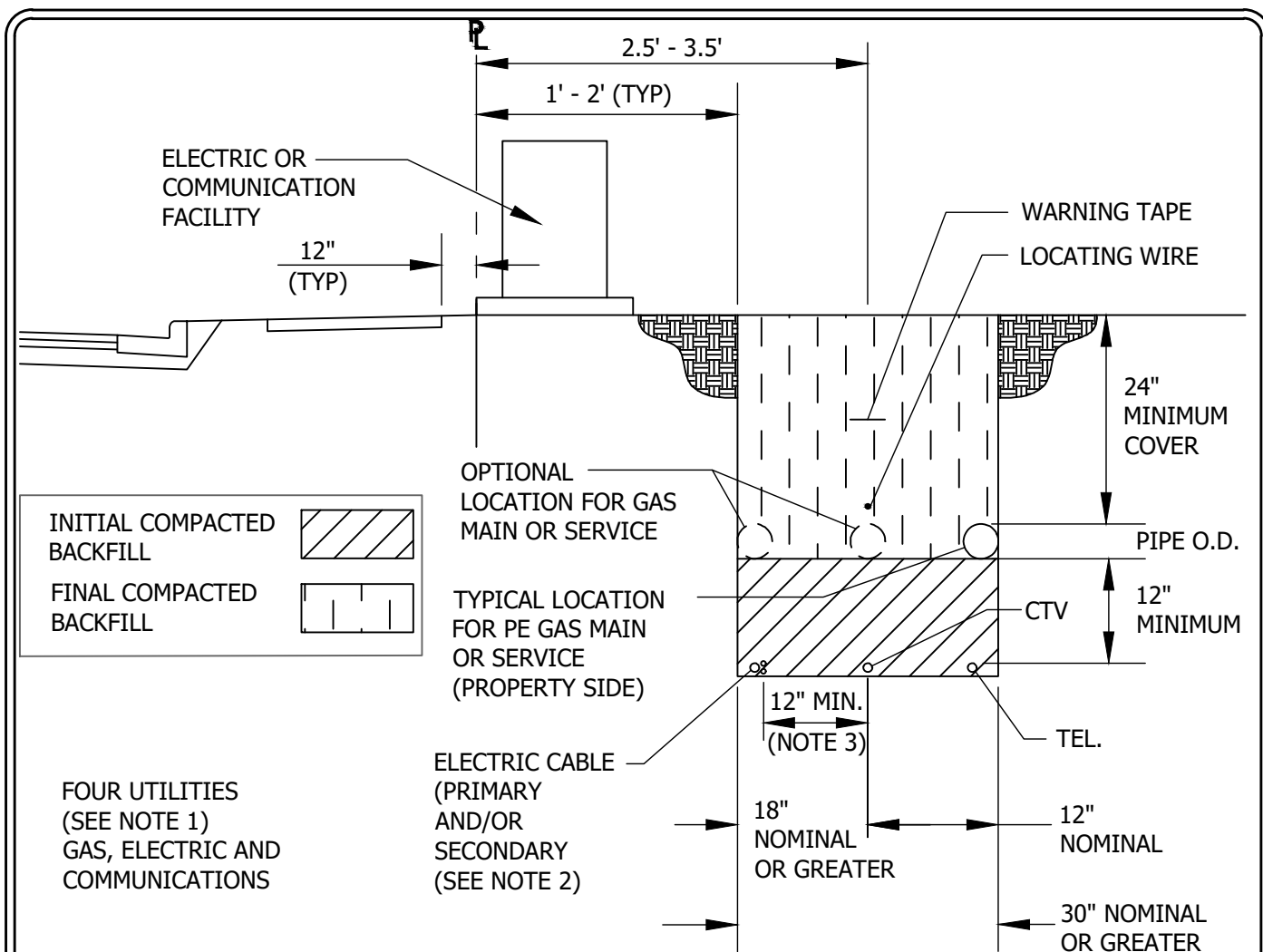
"W" STAMP
DETAIL



**SANITARY SEWER & WATER SERVICE
LOCATION STAMP IN CURB**

LAST REVISION:
March 2019

PLATE NO.
SER-10



NOTES:

1. COMMUNICATION CABLES MAY BE BURIED WITH RANDOM SEPARATION PROVIDED ALL PARTIES ARE IN AGREEMENT.
2. ELECTRIC CABLES MAY BE BURIED WITH RANDOM SEPARATION PROVIDED ALL PARTIES INVOLVED ARE IN AGREEMENT, HOWEVER, 3 PHASE AND 1 PHASE CABLES SHOULD BE SEPARATED (1" OR MORE APART) PREFERABLY ON OPPOSITE SIDES OF TRENCH.
3. HORIZONTAL AND VERTICAL SEPARATION BETWEEN ELECTRIC CABLES AND COMMUNICATION CABLES SHOULD BE 12" MINIMUM.
4. VERTICAL SEPARATION BETWEEN GAS PIPE AND CABLES SHOULD BE 12" MINIMUM.
5. HORIZONTAL SEPARATION BETWEEN GAS PIPES AND CABLES AT THE SAME LEVEL SHOULD BE A MINIMUM OF 12" TO 24".
6. WARNING TAPE IF USED SHALL BE INSTALLED USING METHODS AGREED UPON BY EACH OF THE UTILITY COMPANIES INVOLVED.
7. LOCATING WIRE SHALL BE INSTALLED WITH GAS PIPE USING STANDARD INSTALLATION METHODS.
8. DETAIL DERIVED FROM XCEL ENERGY'S GAS STANDARDS MANUAL, FIGURE 7.12.1-JOINT TRENCH CONSTRUCTION WHEN LESS THAN FOUR UTILITIES ARE INVOLVED.



TYPICAL UTILITIES JOINT TRENCH CONSTRUCTION

LAST REVISION:
March 2019

PLATE NO.
SER-11

City
Plate
No.

INDEX

SECTION 4 - STORM SEWER

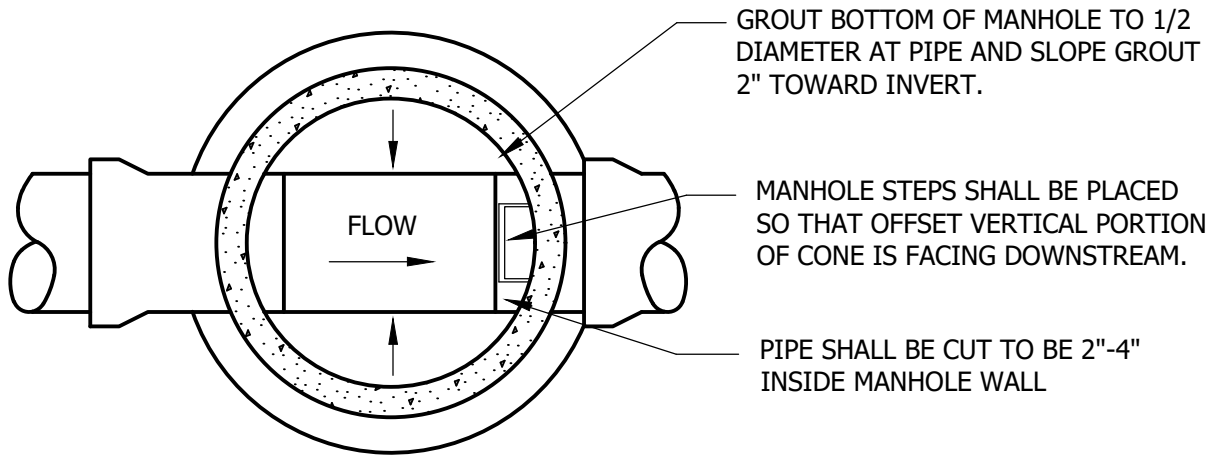
STO-1	STORM SEWER MANHOLE
STO-2	STORM SEWER JUNCTION MANHOLE
STO-3	STORM SEWER JUNCTION MANHOLE WITH REINFORCED TOP SLAB
STO-4	STORM SEWER JUNCTION MANHOLE WITH REINFORCED TOP SLAB AND SUMP
STO-5	CATCH BASIN MANHOLE
STO-6	CATCH BASIN MANHOLE WITH SUMP
STO-7	CATCH BASIN
STO-8	CATCH BASIN WITH SUMP
STO-9	OFF STREET CATCH BASIN WITH CONCRETE STOOL GRATE FRAME
STO-10	PRECAST SHALLOW STORM SEWER STRUCTURE
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STO-12	RIP RAP AT ENDWALL
STO-13	GROUTED RIP RAP AT ENDWALL
STO-14	PVC PERFORATED PIPE BELOW CONCRETE CURB
STO-15	SEEPAGE COLLAR
STO-16	STRUCTURE MARKER SIGN



SECTION 4 - STORM SEWER INDEX

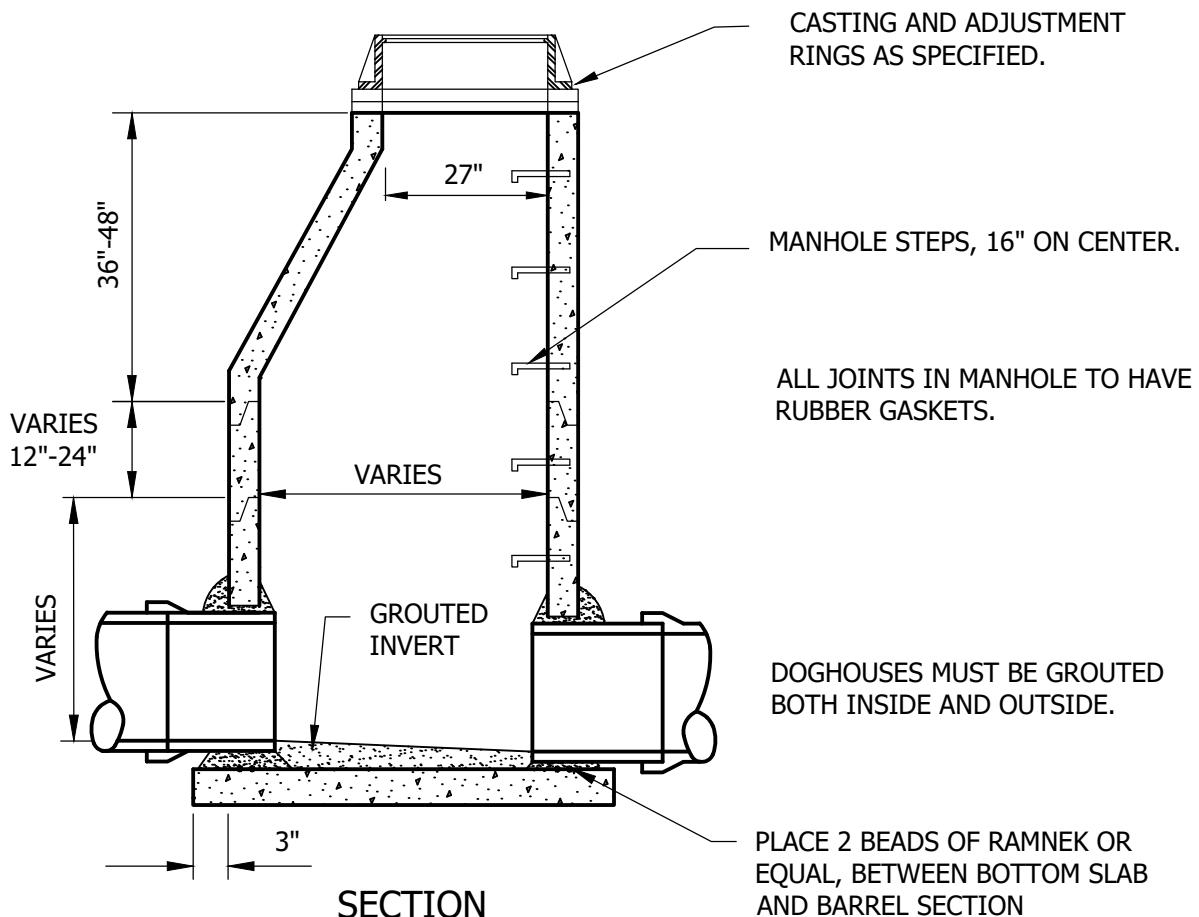
LAST REVISION:
March 2019

PLATE NO.
STO



NO BLOCK STRUCTURES ARE ALLOWED

PLAN



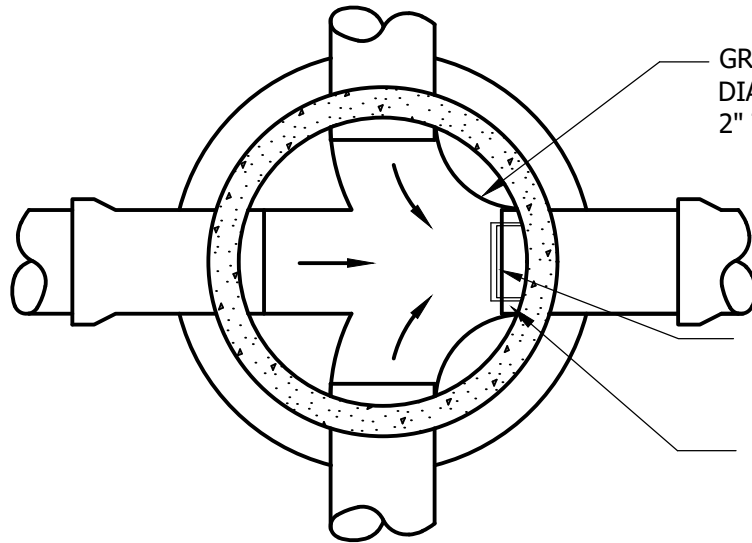
PLACE 2 BEADS OF RAMNEK OR EQUAL, BETWEEN BOTTOM SLAB AND BARREL SECTION



STORM SEWER MANHOLE

LAST REVISION:
March 2019

PLATE NO.
STO-1



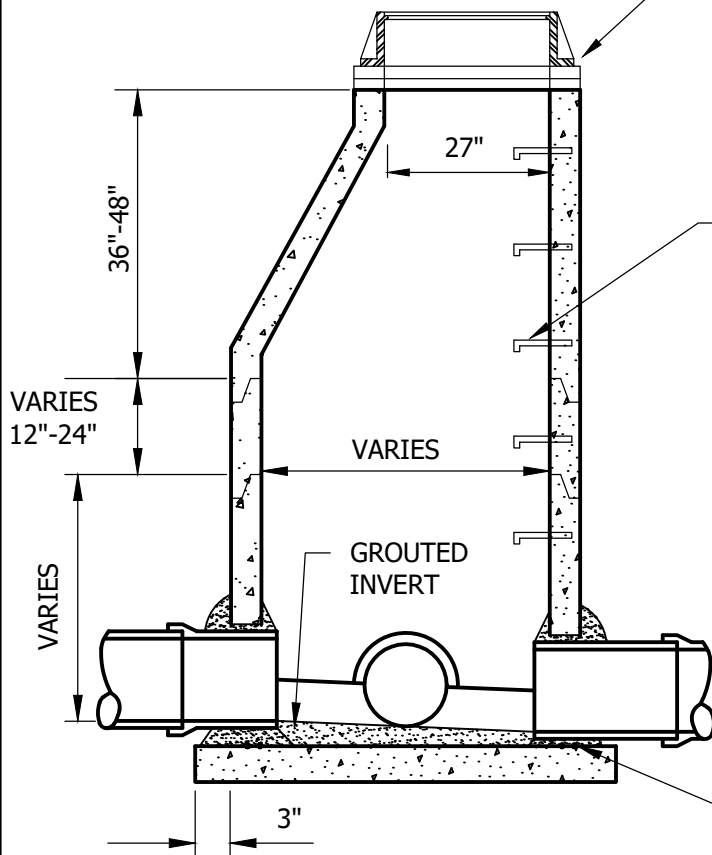
GROUT BOTTOM OF MANHOLE TO 1/2 DIAMETER AT PIPE AND SLOPE GROUT 2" TOWARD INVERT.

MANHOLE STEPS SHALL BE PLACED SO THAT OFFSET VERTICAL PORTION OF CONE IS FACING DOWNSTREAM.

PIPE SHALL BE CUT TO BE 2"-4" INSIDE MANHOLE WALL.

NO BLOCK STRUCTURES ARE ALLOWED

PLAN



CASTING AND ADJUSTMENT RINGS AS SPECIFIED.

MANHOLE STEPS, 16" ON CENTER.

ALL JOINTS IN MANHOLE TO HAVE RUBBER GASKETS.

DOGHOUSES MUST BE GROUTED BOTH INSIDE AND OUTSIDE.

PLACE 2 BEADS OF RAMNEK OR EQUAL, BETWEEN BOTTOM SLAB AND BARREL SECTION.

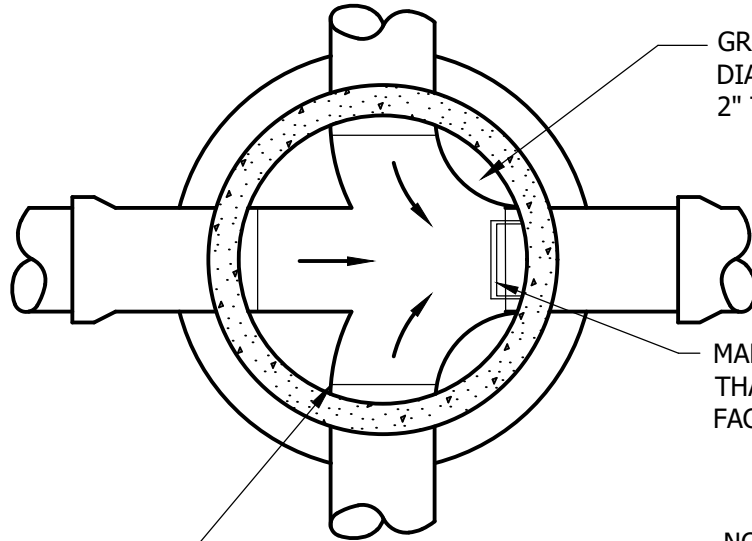
SECTION



STORM SEWER JUNCTION MANHOLE

LAST REVISION:
March 2019

PLATE NO.
STO-2



GROUT BOTTOM OF MANHOLE TO 1/2 DIAMETER AT PIPE AND SLOPE GROUT 2" TOWARD INVERT.

MANHOLE STEPS SHALL BE PLACED SO THAT OFFSET HOLE IN TOP SLAB IS FACING DOWNSTREAM.

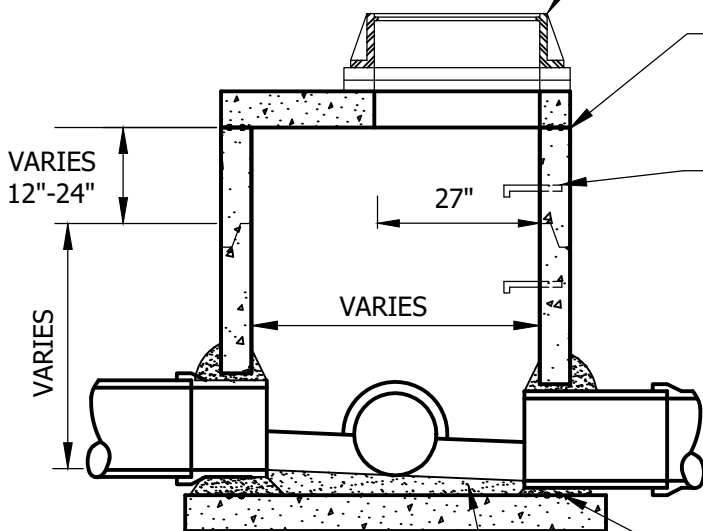
NO BLOCK STRUCTURES ARE ALLOWED.

PLAN

PIPE SHALL BE CUT TO BE 2" - 4" INSIDE MANHOLE WALL

CASTING AND ADJUSTMENT RINGS AS SPECIFIED.

ALL JOINTS IN MANHOLE TO HAVE RUBBER GASKETS.



TOP OF BARREL SECTION BELOW TOP SLAB TO HAVE FLAT TOP EDGE SEALED WITH 2 BEADS OF RAMNEK OR EQUAL.

MANHOLE STEPS, 16" ON CENTER.

DOGHOUSES MUST BE GROUTED BOTH INSIDE AND OUTSIDE.

PLACE 2 BEADS OF RAMNEK OR EQUAL, BETWEEN BOTTOM SLAB AND BARREL SECTION.

SECTION

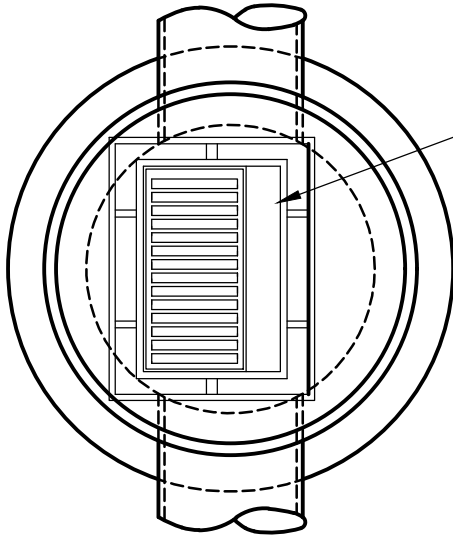
GROUTED INVERT



STORM SEWER JUNCTION MANHOLE WITH REINFORCED TOP SLAB

LAST REVISION:
March 2019

PLATE NO.
STO-3



PLAN

24"X36" SLAB OPENING FOR
CASTING AS SPECIFIED

DIMENSION FROM BACK OF CURB TO
CENTER OF STRUCTURE.

4' DIA. MH - 9" IN FROM BACK OF CURB

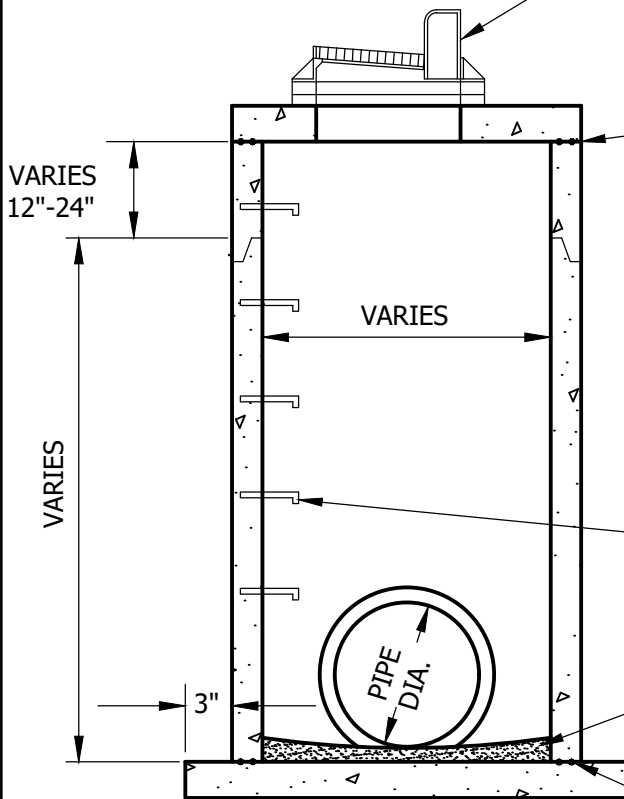
5' DIA. MH - 3" IN FROM BACK OF CURB

6' DIA. MH - 3" BEHIND BACK OF CURB

7' DIA. MH - 9" BEHIND BACK OF CURB

8' DIA. MH - 15" BEHIND BACK OF CURB

CASTING AND ADJUSTMENT RINGS AS
SPECIFIED.



SECTION

TOP OF BARREL SECTION UNDER TOP
SLAB TO HAVE FLAT TOP EDGE SEALED
WITH 2 BEADS OF RAMNEK OR EQUAL.

NO BLOCK STRUCTURES ARE ALLOWED

DOGHOUSES SHALL BE GROUTED ON
BOTH THE OUTSIDE AND INSIDE.

MANHOLE STEPS, 16" ON CENTER

ALL JOINTS IN MANHOLE TO HAVE
RUBBER GASKETS.

GROUTED INVERT

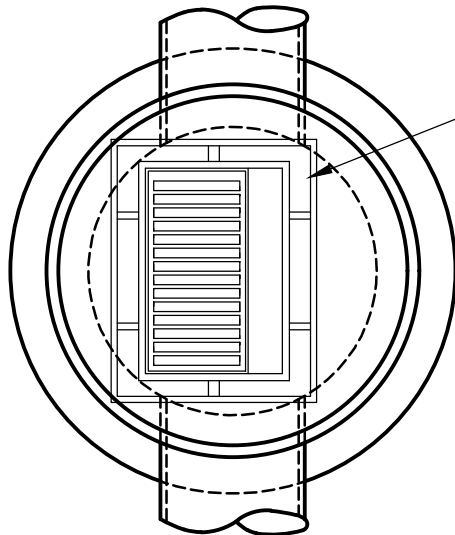
PLACE 2 BEADS OF RAMNEK OR
EQUAL, BETWEEN BOTTOM SLAB
AND BARREL SECTION.



CATCH BASIN MANHOLE

LAST REVISION:
March 2019

PLATE NO.
STO-5



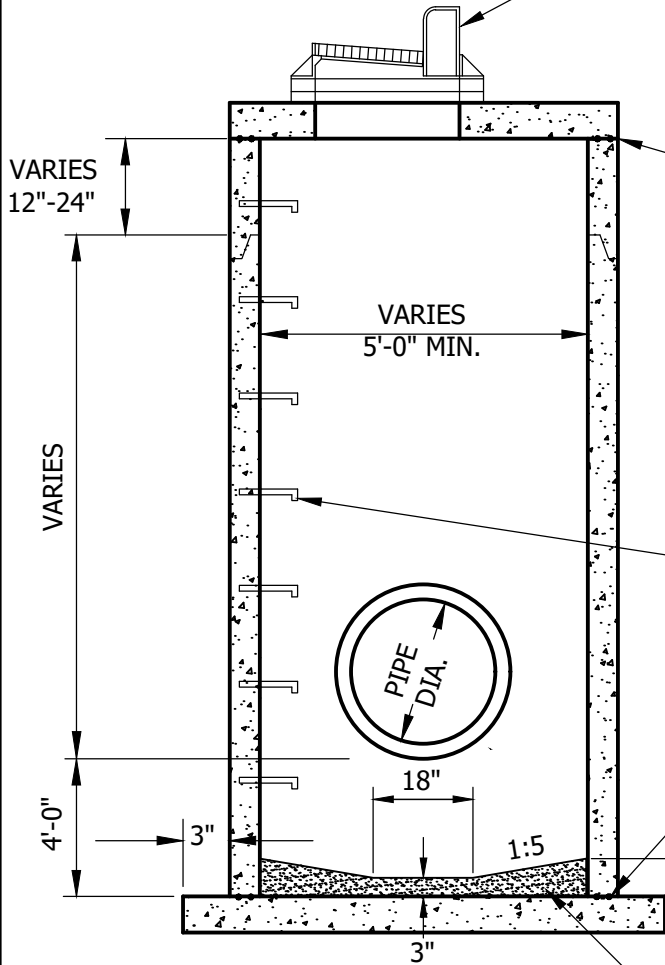
PLAN

24"X36" SLAB OPENING FOR CASTING AS SPECIFIED.

DIMENSION FROM BACK OF CURB TO CENTER OF STRUCTURE.

- 4' DIA. MH - 9" IN FROM BACK OF CURB
- 5' DIA. MH - 3" IN FROM BACK OF CURB
- 6' DIA. MH - 3" BEHIND BACK OF CURB
- 7' DIA. MH - 9" BEHIND BACK OF CURB
- 8' DIA. MH - 15" BEHIND BACK OF CURB

CASTING AND ADJUSTMENT RINGS AS SPECIFIED.



SECTION

TOP OF BARREL SECTION UNDER TOP SLAB TO HAVE FLAT TOP EDGE SEALED WITH 2 BEADS OF RAMNEK OR EQUAL.

NO BLOCK STRUCTURES ARE ALLOWED

ALL JOINTS IN MANHOLE TO HAVE RUBBER GASKETS.

MANHOLE STEPS, 16" ON CENTER

DOGHOUSES SHALL BE GROUTED ON BOTH THE OUTSIDE AND INSIDE.

PLACE 2 BEADS OF RAMNEK OR EQUAL, BETWEEN BOTTOM SLAB AND BARREL SECTION.

GROUTED INVERT

* A

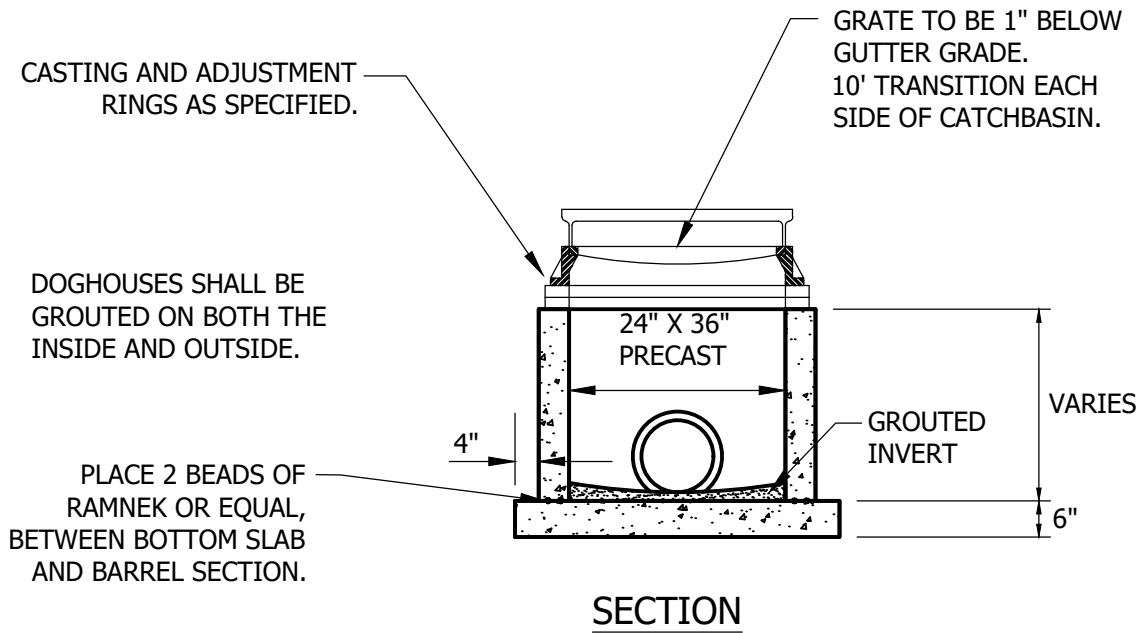
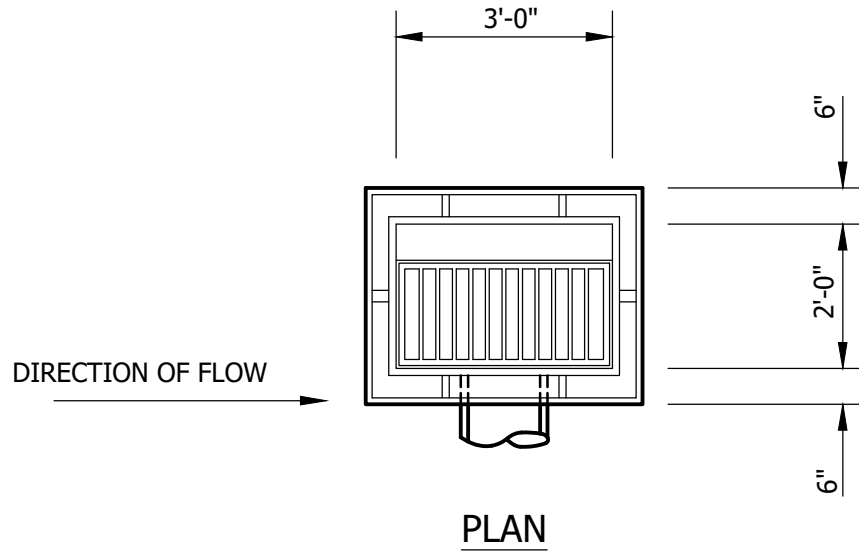
4' DIA. STRUCTURE	6"
5' DIA. STRUCTURE	8"
6' DIA. STRUCTURE	9"



CATCH BASIN MANHOLE WITH SUMP

LAST REVISION:
March 2019

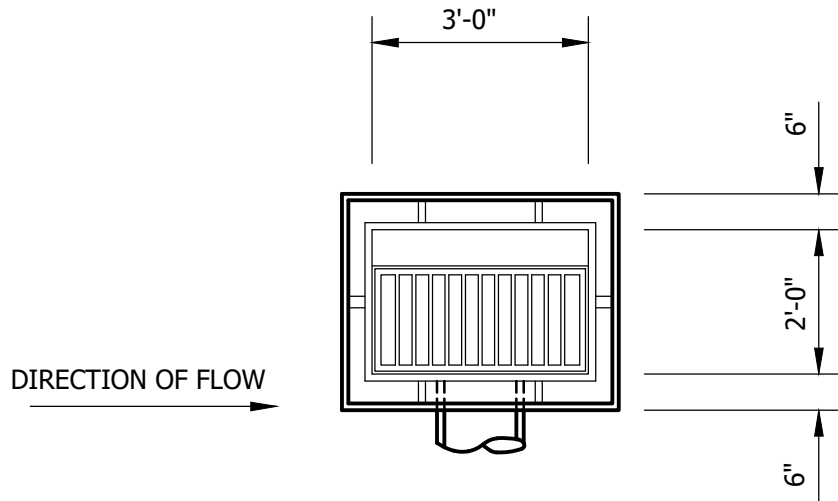
PLATE NO.
STO-6



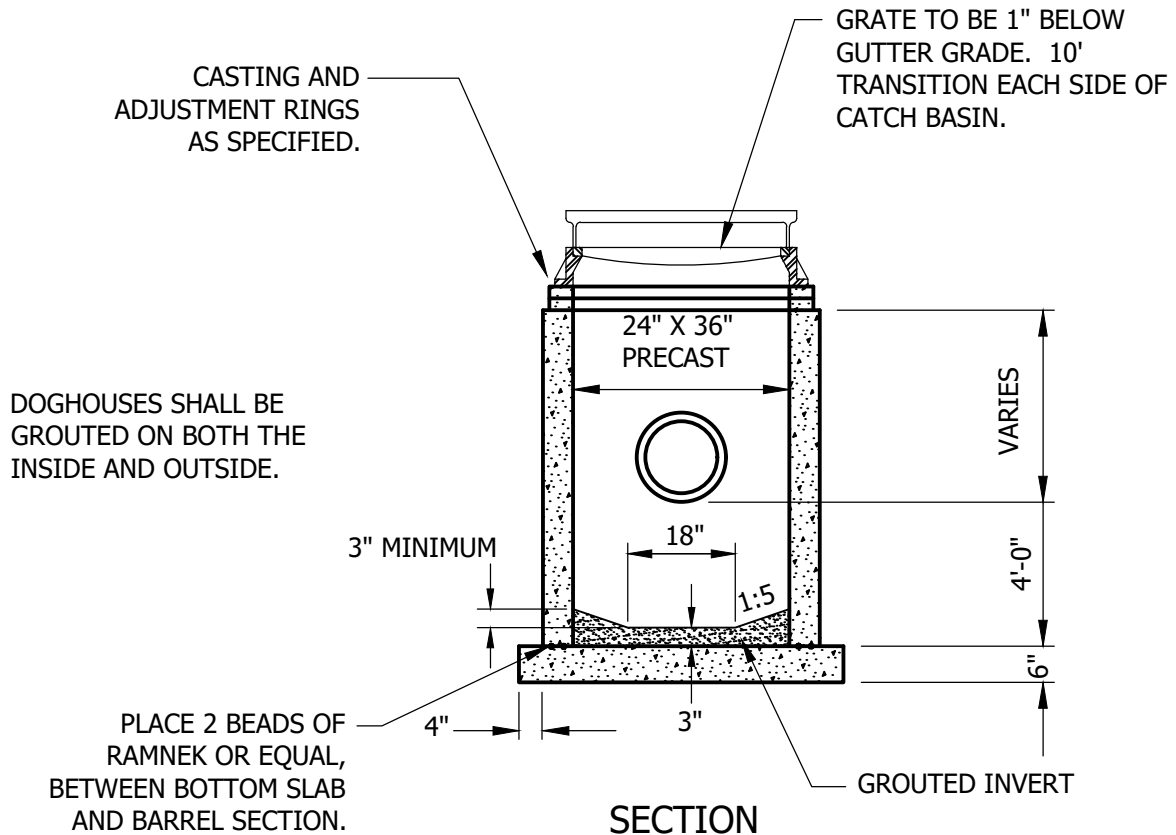
CATCH BASIN

LAST REVISION:
March 2019

PLATE NO.
STO-7



PLAN



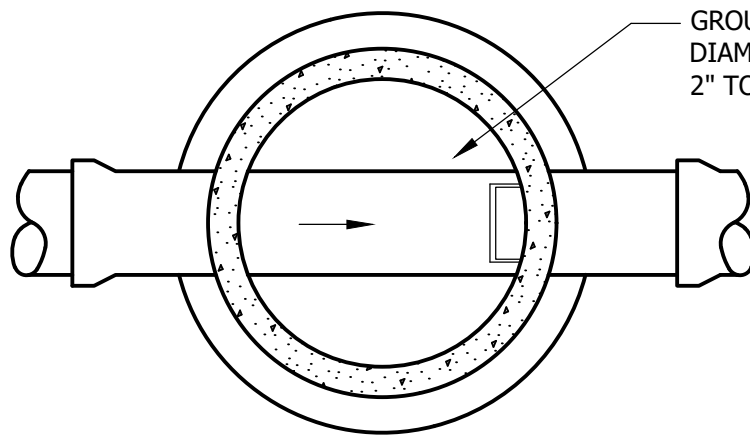
SECTION



CATCH BASIN WITH SUMP

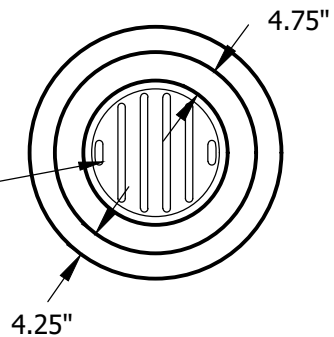
LAST REVISION:
March 2019

PLATE NO.
STO-8



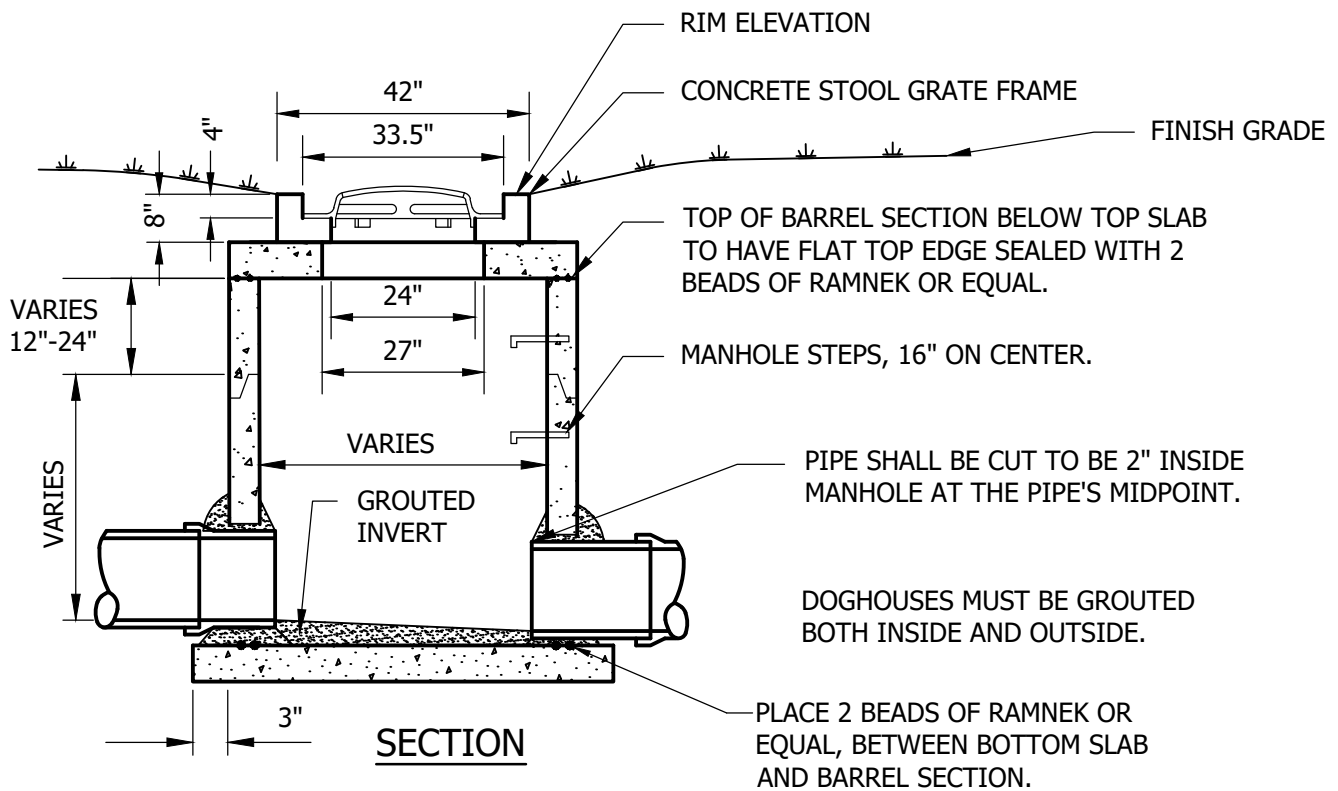
PLAN-INVERT

GROUT BOTTOM OF MANHOLE TO 1/2 DIAMETER AT PIPE AND SLOPE GROUT 2" TOWARD INVERT.



TOP VIEW
GRATE FRAME

CASTING AS SPECIFIED



OFF STREET CATCH BASIN WITH CONCRETE STOOL GRATE FRAME

LAST REVISION:
March 2019

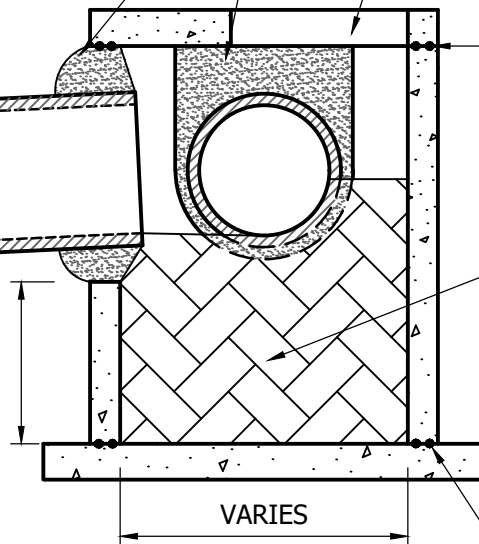
PLATE NO.
STO-9

PIPE SHALL BE CUT TO BE 2" INSIDE
MANHOLE AT THE PIPE'S MIDPOINT
AND HAVE OPENINGS FILLED WITH
WISDOT 519.2.3 MORTAR AND BRICKS
AS NECESSARY AROUND PIPE

OPENING SIZE AND LOCATION
TO MATCH CASTING AND
ADJUSTMENT RING TYPE.

REINFORCED
CONCRETE
PIPE

12" MIN.



TOP OF BARREL SECTION BELOW
TOP SLAB TO HAVE FLAT TOP EDGE
SEALED WITH 2 BEADS OF RAMNEK
OR EQUAL.

FILL ENTIRE SUMP
WITH MORTAR, AND
COMPLETE INVERT
(WISDOT 519.2.3)

PLACE 2 BEADS OF RAMNEK OR
EQUAL, BETWEEN BOTTOM SLAB
AND BARREL SECTION.

VARIES

REFER TO SCHEDULE FOR
DIAMETER OF STRUCTURE



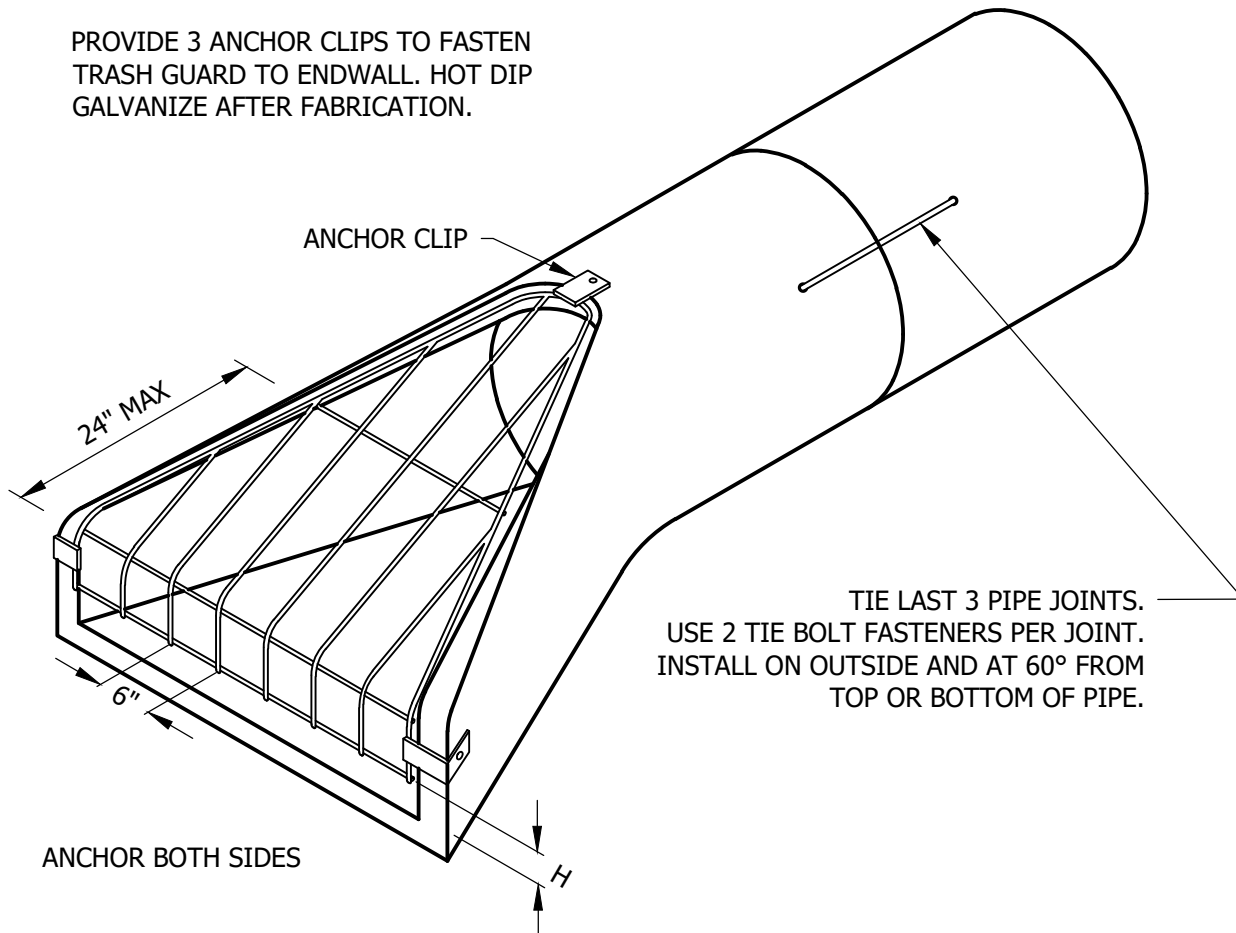
PRECAST SHALLOW STORM SEWER STRUCTURE

LAST REVISION:
March 2019

PLATE NO.
STO-10

INSTALL TRASH GUARDS ON ALL OUTLET
(UPSTREAM) END WALLS AND INLET
(DOWNSTREAM) END WALLS LARGER THAN 24"

PROVIDE 3 ANCHOR CLIPS TO FASTEN
TRASH GUARD TO ENDWALL. HOT DIP
GALVANIZE AFTER FABRICATION.



ISOMETRIC

SEE DETAIL PLATE NO. STO-14
AND STO-15 FOR RIPRAP
PLACEMENT.

TRASH GUARD SIZING

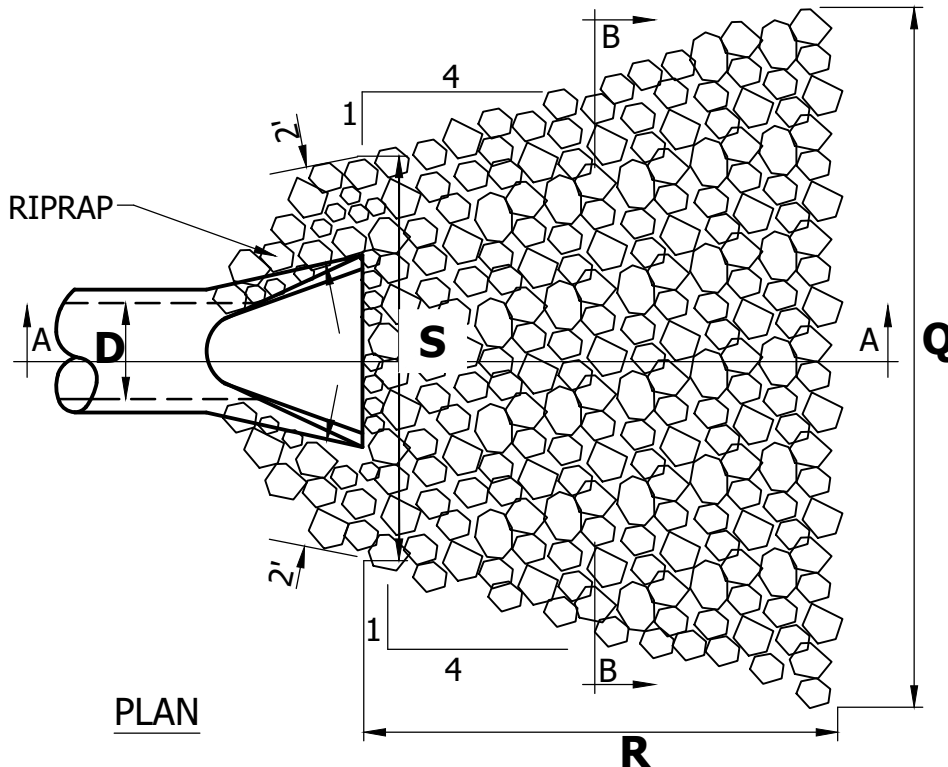
PIPE SIZE	ROUND BARS	'H'	BOLTS
12"- 18"	3/4"φ	3"-4"	5/8"
21"- 42"	1"φ	4"-6"	3/4"
48"-72"	1 1/4"φ	6"-8"	1"



ENDWALL WITH TRASH GUARD

LAST REVISION:
March 2019

PLATE NO.
STO-11

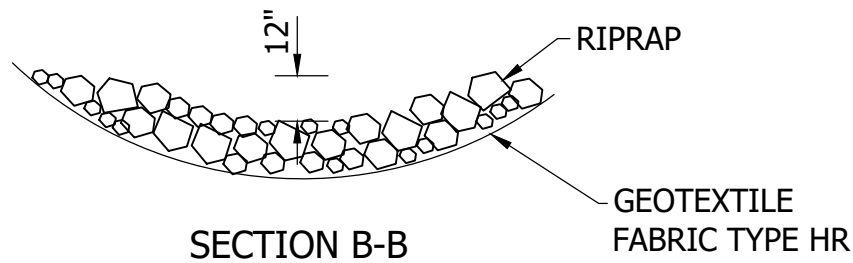
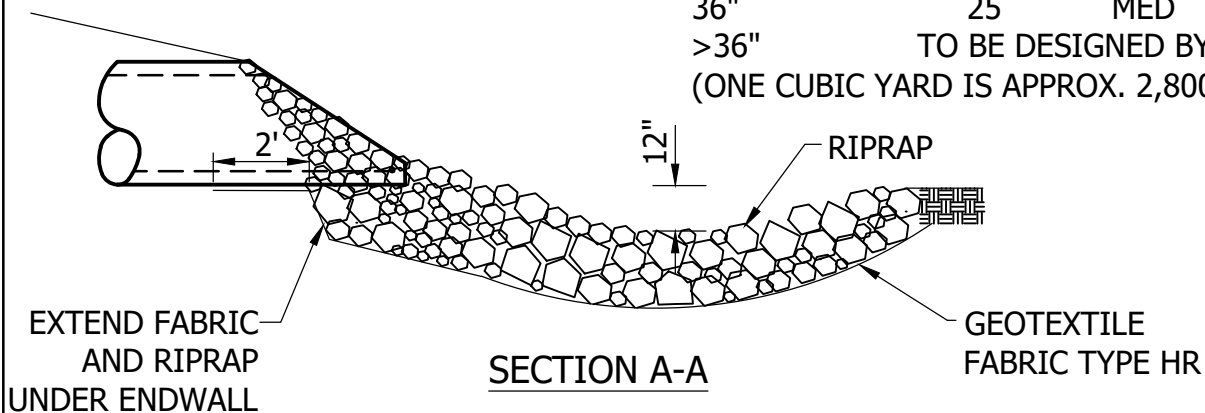


RIPRAP AREA SIZES

D	Q	R	S
12"	11'	15'	7'
24"	15'	15'	9'
36"	19'	15'	11'
>36"	TO BE DESIGNED BY ENGINEER		

RIPRAP REQUIREMENTS

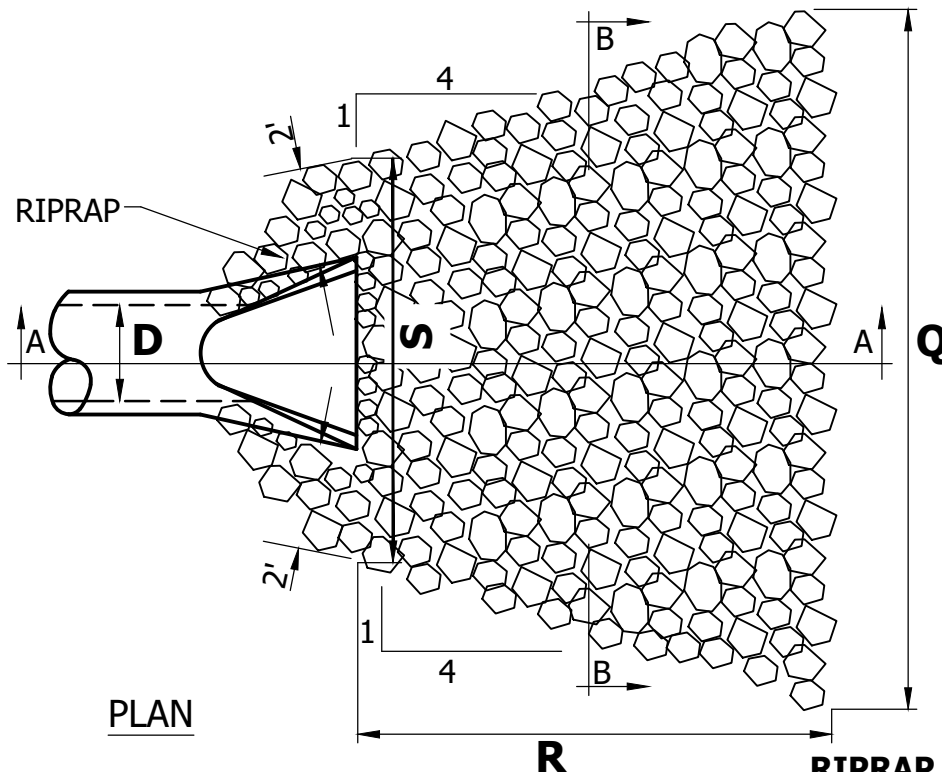
<u>D</u>	<u>CY</u>	<u>CLASS</u>	<u>DEPTH</u>
12" TO 24"	15 TO 20	MED	3'
27" TO 33"	20 TO 25	MED	3'
36"	25	MED	3'
>36"	TO BE DESIGNED BY ENGINEER		
(ONE CUBIC YARD IS APPROX. 2,800 LBS.)			



RIPRAP AT ENDWALL

LAST REVISION:
March 2019

PLATE NO.
STO-12



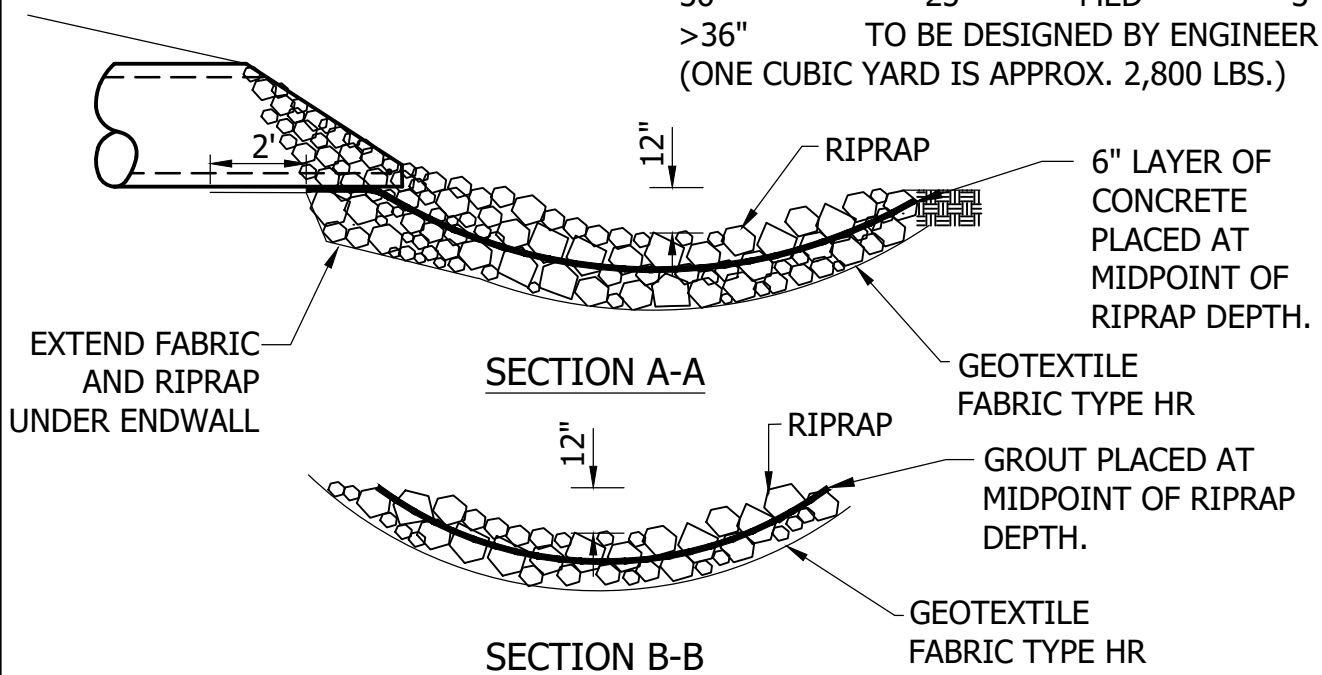
RIPRAP AREA SIZES

D	Q	R	S
12"	11'	15'	7'
24"	15'	15'	9'
36"	19'	15'	11'
>36"	TO BE DESIGNED BY ENGINEER		

RIPRAP REQUIREMENTS

D	CY	CLASS	DEPTH
12" TO 24"	15 TO 20	MED	3'
27" TO 33"	20 TO 25	MED	3'
36"	25	MED	3'
>36"	TO BE DESIGNED BY ENGINEER		

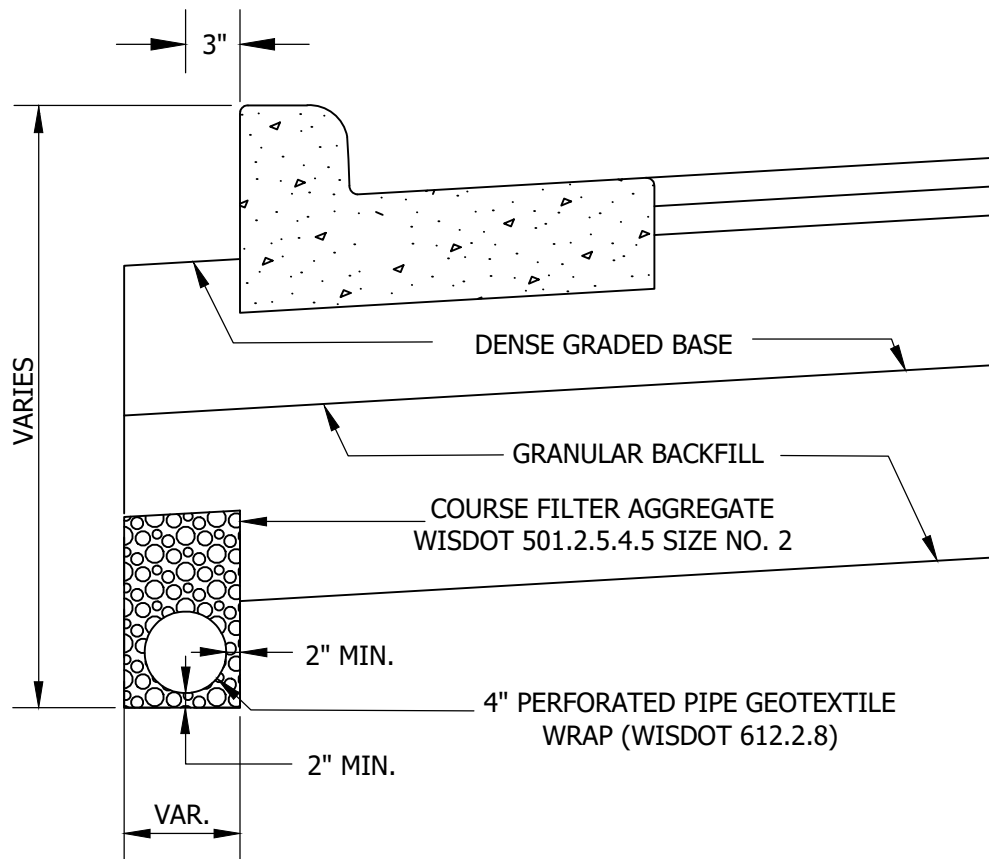
(ONE CUBIC YARD IS APPROX. 2,800 LBS.)



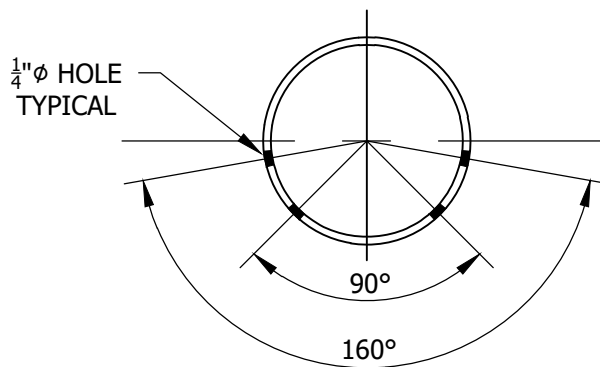
GROUTED RIPRAP AT ENDWALL

LAST REVISION:
March 2019

PLATE NO.
STO-13



TRENCH DETAIL



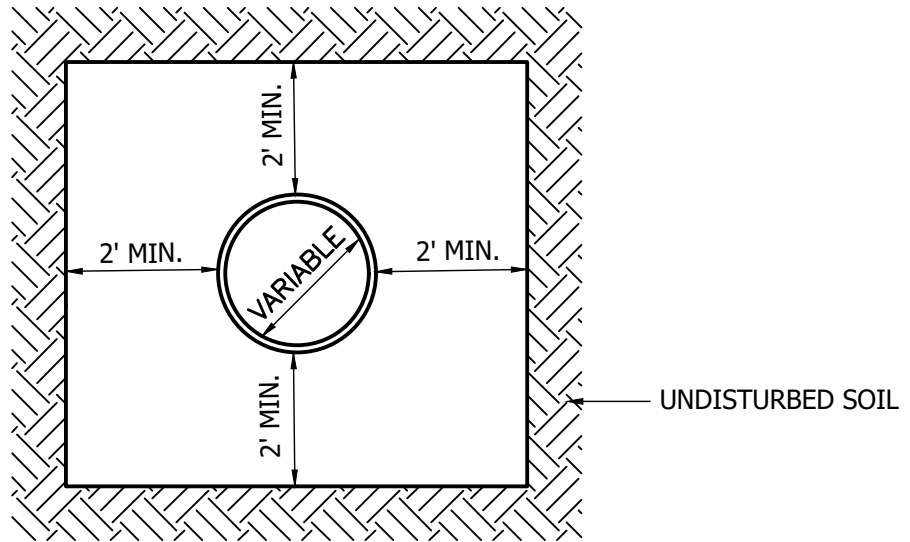
PIPE DETAIL



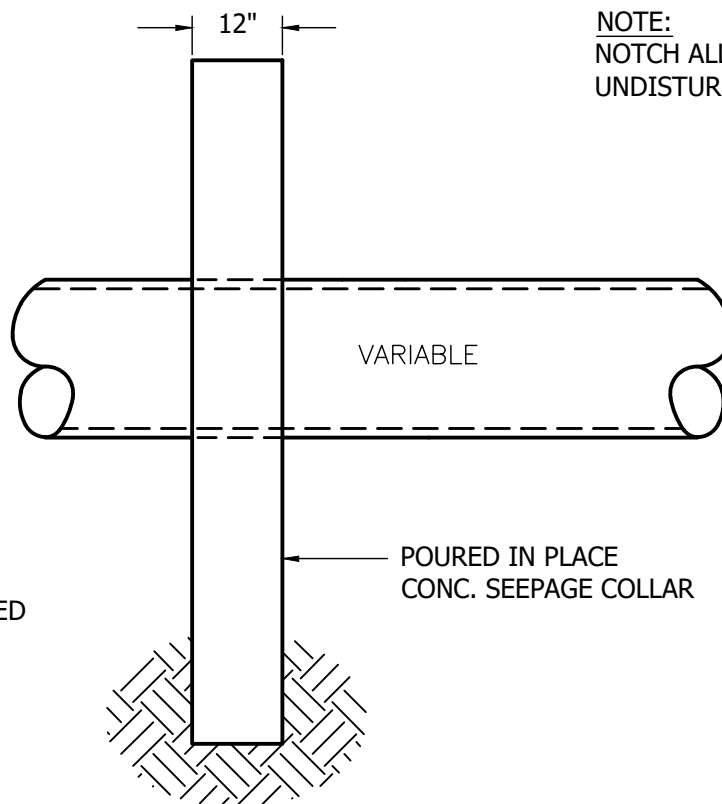
PERFORATED PVC DRAIN TILE PIPE

LAST REVISION:
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PLATE NO.
STO-14



SECTION A-A



NOTE:
NOTCH ALL SIDES INTO
UNDISTURBED SOIL

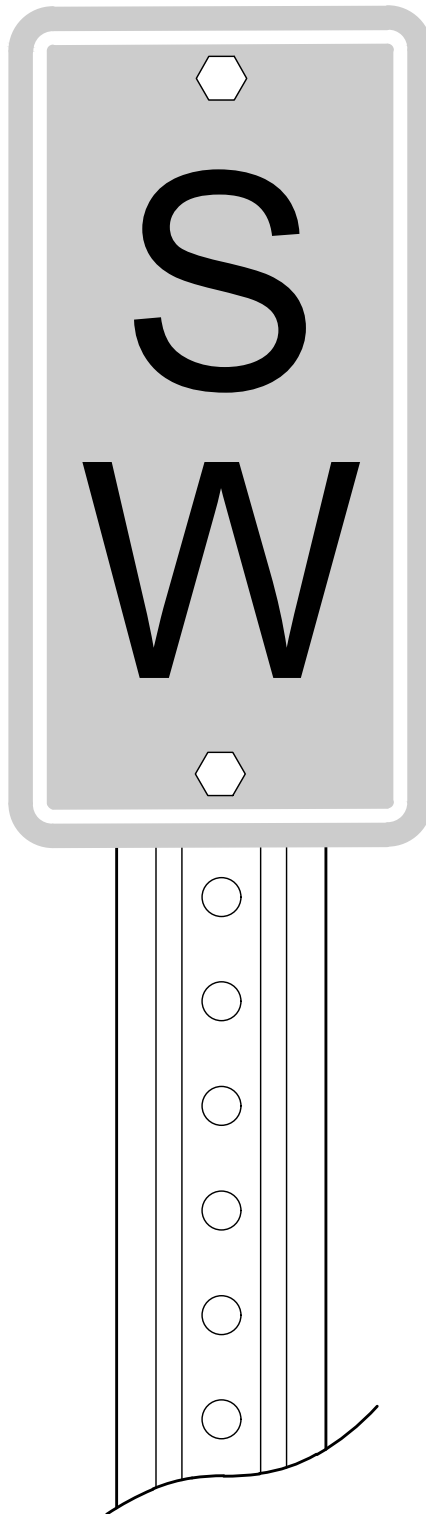
NOTE:
COLLAR MUST BE
ADEQUATELY FRAMED
USING WOOD OR
OTHER ACCEPLABLE
MATERIAL



SEEPAGE COLLAR

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STO-15



NOTE:

ALL MANHOLES INSTALLED OUTSIDE OF THE ROADWAY (SUCH AS RIGHT-OF-WAYS AND EASEMENTS) SHALL BE MARKED WITH A GREEN METAL SIGN LABELED "MH" IN WHITE LETTERS. SIGNS SHALL BE MOUNTED TO A U-STYLE STEEL POST 4' ABOVE GRADE WITH TWO SETS OF STAINLESS STEEL BOLTS, WASHERS AND NUTS. ALL METAL SIGNS SHALL BE A MINIMUM OF 0.063" THICK. ALL STEEL POSTS SHALL BE A MINIMUM OF 1.2 LB/FT.

NOTES:

1. 6"x12" SIGN PANEL - WHITE LETTERS ON GREEN HIP SHEETING WITH WHITE BORDER.
2. U-CHANNEL GALVANIZED POST, MINIMUM 3 LB/FT 6'-6" LONG.
3. REQUIRED FOR STRUCTURES LOCATED IN NON-MAINTAINED AREAS AS DIRECTED BY ENGINEER.



STRUCTURE MARKER SIGN

LAST REVISION:

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STO-16

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SECTION 5 - BEDDING

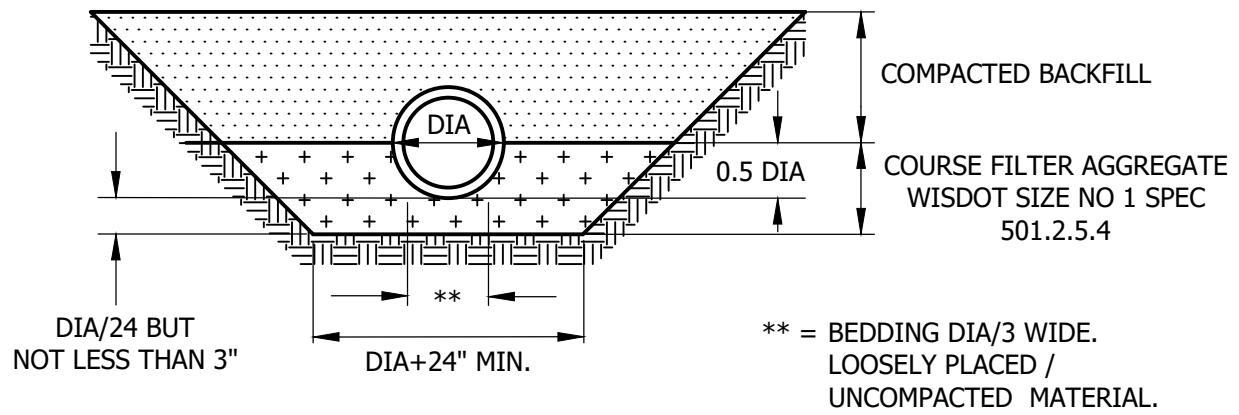
BED-1	PIPE FOUNDATION & BEDDING METHODS FOR RCP & DIP
BED-2	PIPE FOUNDATION & BEDDING METHODS FOR PVC
BED-3	IMPROVED PIPE FOUNDATION FOR RCP, DIP, & PVC TRENCH
BED-4	PIPE BEDDING IN ROCK FOR RCP, DIP & PVC PIPE



SECTION 5 - BEDDING INDEX

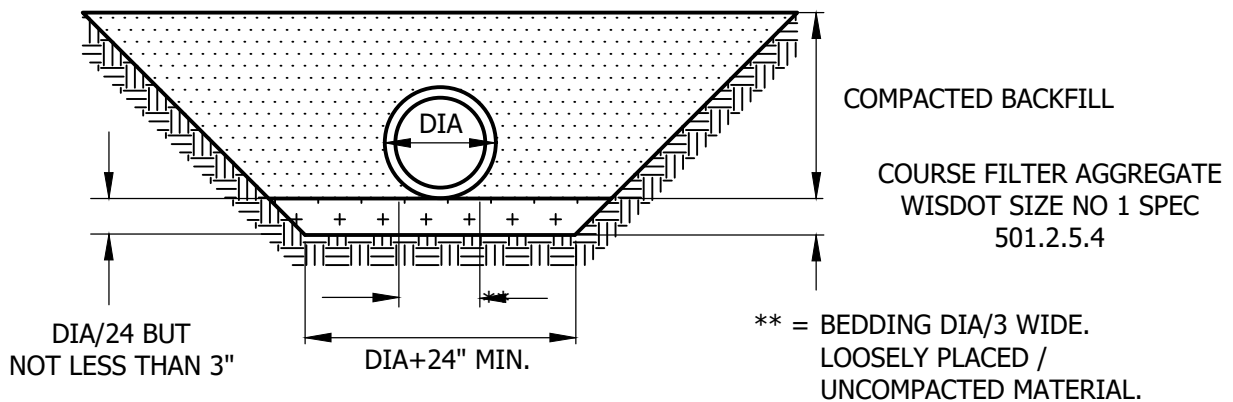
LAST REVISION:
March 2019

PLATE NO.
BED



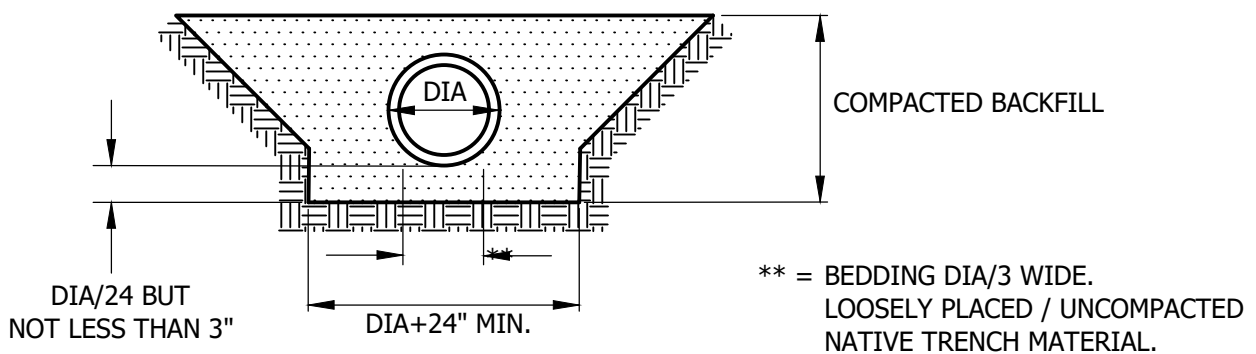
INSTALLATION TYPE 1

DIA = OUTSIDE DIAMETER OF PIPE



INSTALLATION TYPE 2

DIA = OUTSIDE DIAMETER OF PIPE



INSTALLATION TYPE 3

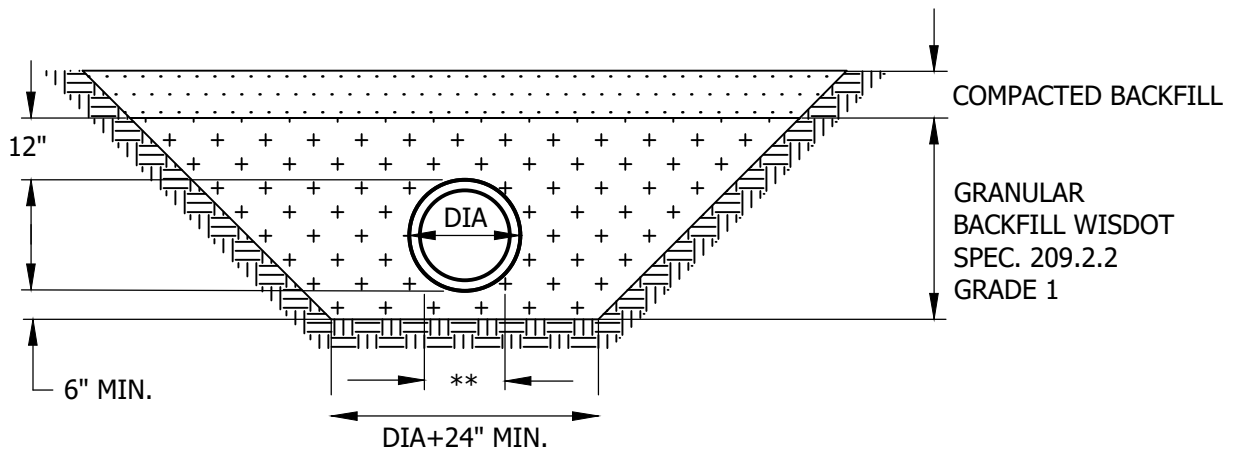
DIA = OUTSIDE DIAMETER OF PIPE



PIPE FOUNDATION & BEDDING METHODS FOR RCP & DIP

LAST REVISION:
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PLATE NO.
BED-1



DIA = OUTSIDE DIAMETER OF PIPE

** = BEDDING DIA/3 WIDE.
LOOSELY PLACED /
UNCOMPACTED MATERIAL.

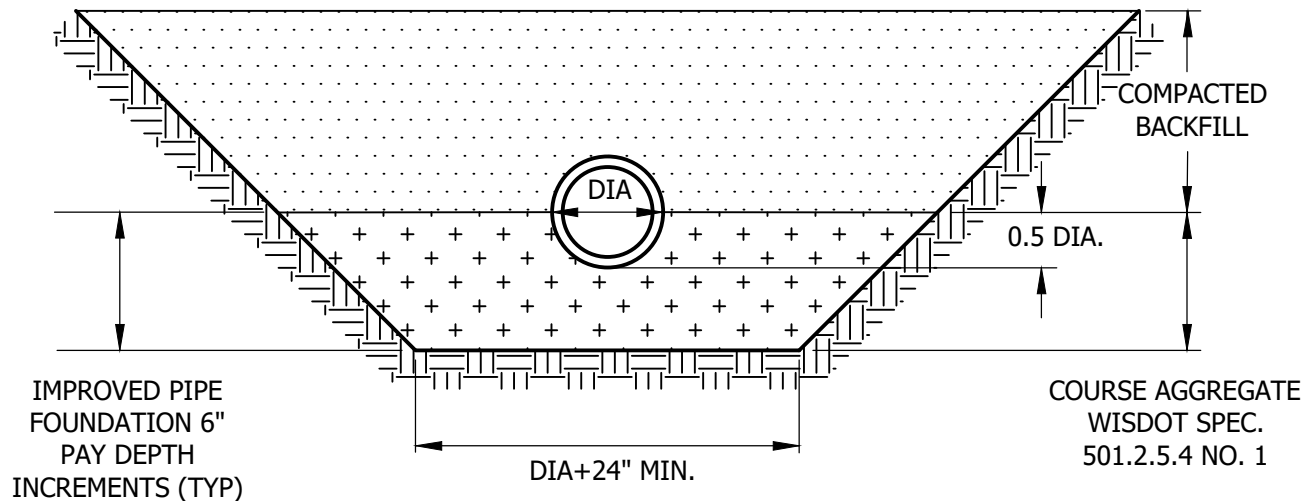
PVC PIPE FOUNDATION & BEDDING GOOD SOILS



PIPE FOUNDATION & BEDDING METHOD FOR PVC PIPE TRENCH

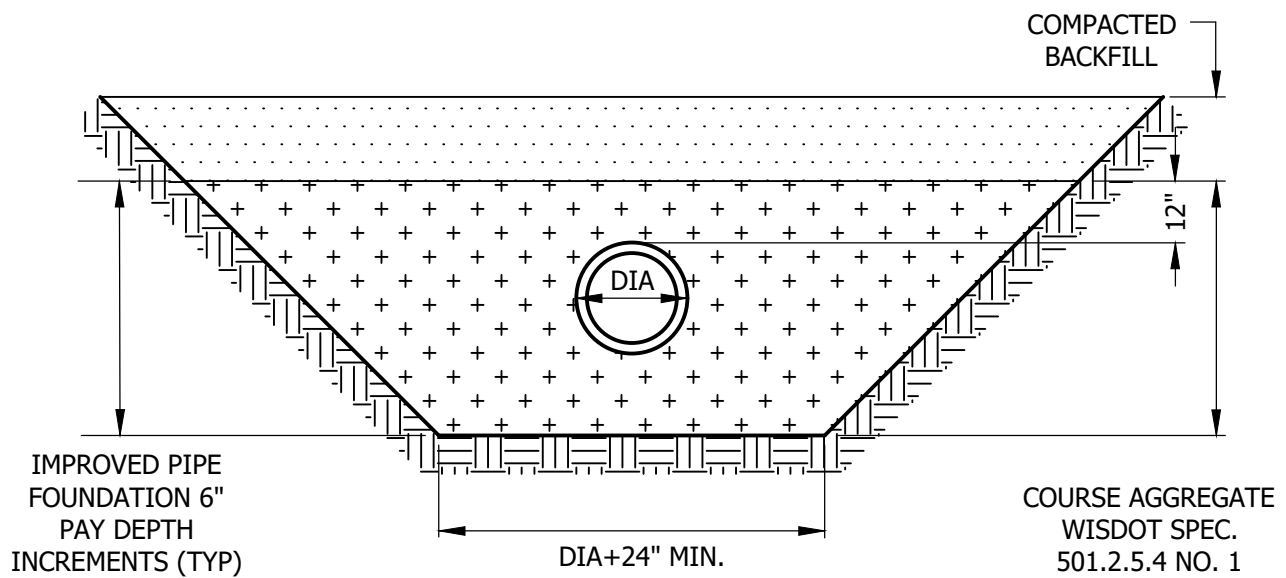
LAST REVISION:
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PLATE NO.
BED-2



DIA = OUTSIDE DIAMETER OF PIPE

RCP & DIP PIPE



DIA = OUTSIDE DIAMETER OF PIPE

PVC PIPE



IMPROVED PIPE FOUNDATION FOR RCP, DIP & PVC PIPE TRENCH

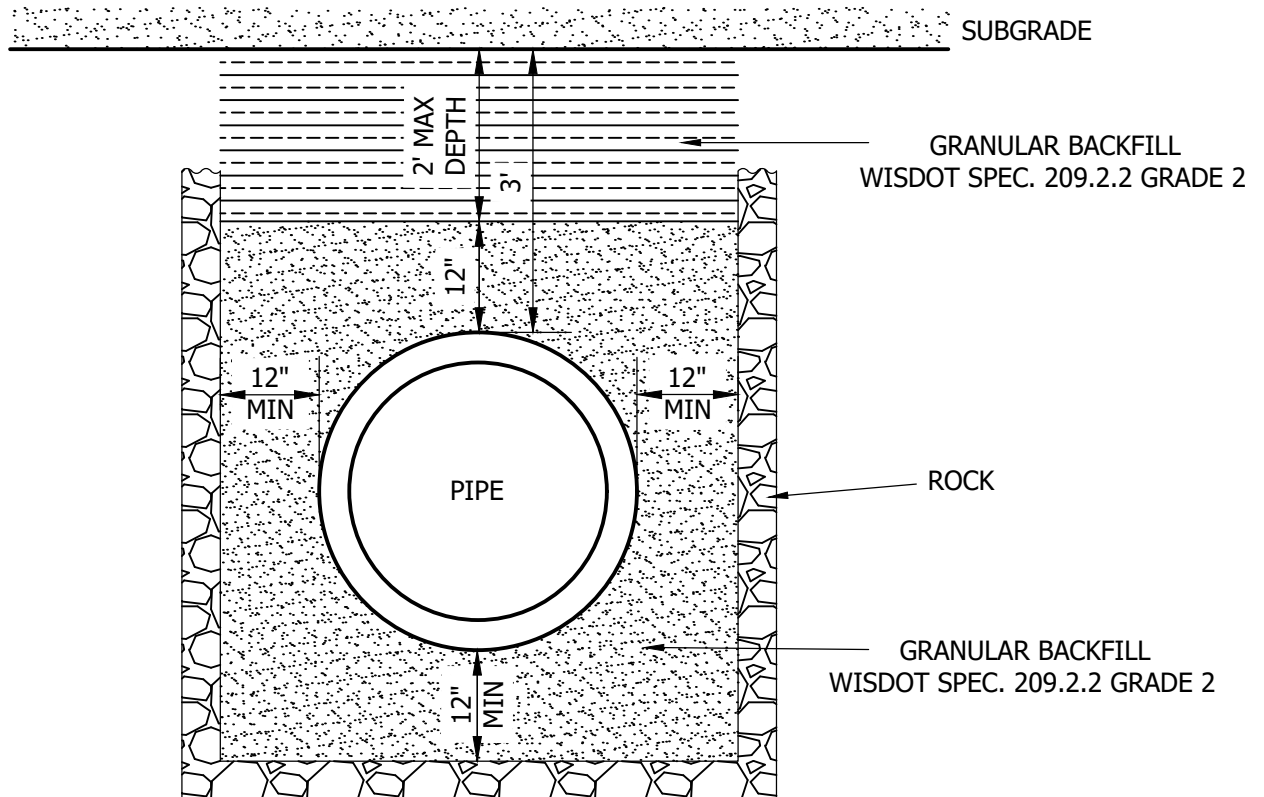
LAST REVISION:
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PLATE NO.
BED-3

NOTE:

USE GRANULAR BACKFILL WHEN TOP OF PIPE IS WITHIN 3 FEET OF SUBGRADE.

IF GREATER THAN 3 FEET, USE SUITABLE EXISTING ONSITE BACKFILL.



**PIPE BEDDING IN ROCK
FOR RCP, DIP, & PVC PIPE**

LAST REVISION:
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BED-4

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SECTION 6 - STREETS

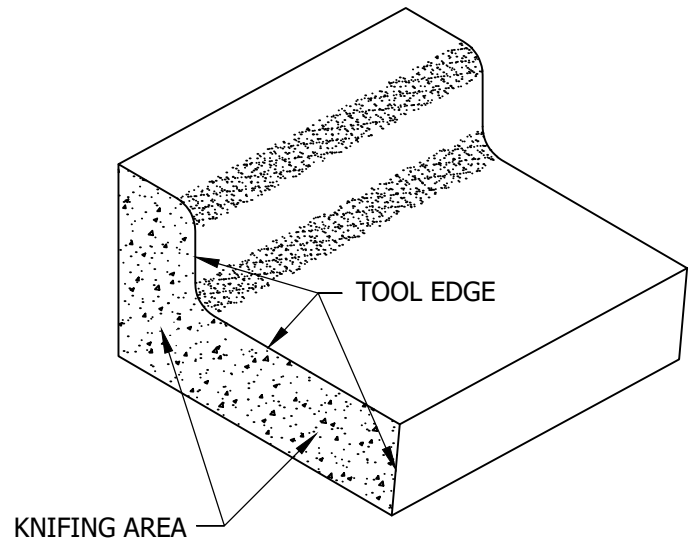
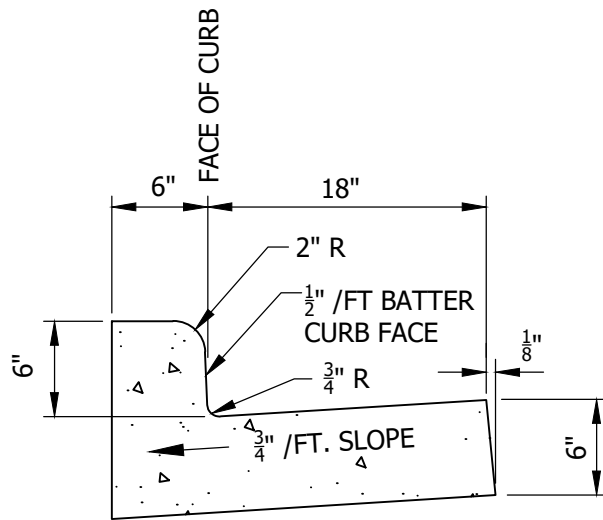
STR-1	CONCRETE CURB AND GUTTER
STR-2	SURMOUNTABLE AND DRIVEWAY CURB AND GUTTER
STR-3	CONCRETE DRIVEWAY APRON - RESIDENTIAL
STR-4	CONCRETE DRIVEWAY APRON - ALLEY
STR-5	COMMERCIAL DRIVEWAY CONCRETE APRON WITH CURB
STR-6	SURMOUNTABLE CURB AND GUTTER CONSTRUCTION AT CATCH BASIN
STR-7	D18 CURB AND GUTTER CONSTRUCTION AT CATCH BASIN
STR-8	D24 CURB AND GUTTER CONSTRUCTION AT CATCH BASIN
STR-9	D30 CURB AND GUTTER CONSTRUCTION AT CATCH BASIN
STR-10	CONCRETE CURB AND GUTTER TRANSITION
STR-11	CONCRETE VALLEY GUTTER
STR-12	CONCRETE CURB REPLACEMENT - DRIVE LOCATION (ASPHALT D/W APRON)
STR-13	CONCRETE CURB REPLACEMENT - DRIVE LOCATION (CONCRETE D/W APRON)
STR-14	CONCRETE CURB REPLACEMENT - NON DRIVE LOCATION
STR-15	TYPICAL SECTION FOR ASPHALT TRAIL AND CONCRETE SIDEWALK
STR-16	CATCH BASIN AND MANHOLE ADJUSTMENT (HDPE RINGS)
STR-17	STRUCTURE ADJUSTMENTS (ASPHALT OR CONCRETE)
STR-18	PERMANENT BARRICADE
STR-19	TYPICAL COMMERCIAL CUL-DE-SAC FOR 50' AND 60' RIGHT-OF-WAYS
STR-20	TYPICAL ECCENTRIC CUL-DE-SAC FOR 50' AND 60' RIGHT-OF-WAYS
STR-21	BASE FOR UP TO 40' LIGHTING STANDARDS
STR-22	30'-8" COMMERCIAL LIGHT - TAPERING ALUMINUM POLE
STR-23	35'-8" COMMERCIAL LIGHT - TAPERING ALUMINUM POLE
STR-24	12' & 15' ELLIPTICAL TRUSS ARM
STR-25	PRIVATE UTILITY CONDUIT CROSSING
STR-26	DIP IRRIGATION CONDUIT CROSSING
STR-27	MAIL BOX INSTALLATION
STR-28	STREET NAME BLADE SIGNS PUBLIC STREETS
STR-29	STREET NAME BLADE SIGNS PRIVATE STREETS
STR-30	TYPICAL TRAFFIC SIGN INSTALLATION BOULEVARD
STR-31	TYPICAL TRAFFIC SIGN INSTALLATION STREET NAME BLADE SIGN
STR-32	TYPICAL TRAFFIC SIGN INSTALLATION MEDIAN
STR-33	CONCRETE APPROACH NOSE
STR-34	HIGH CAPACITY CONCRETE APRON (SURMOUNTABLE CURB)
STR-35	HIGH CAPACITY CONCRETE APRON (D24 CURB)
STR-36	TREE PLANTING



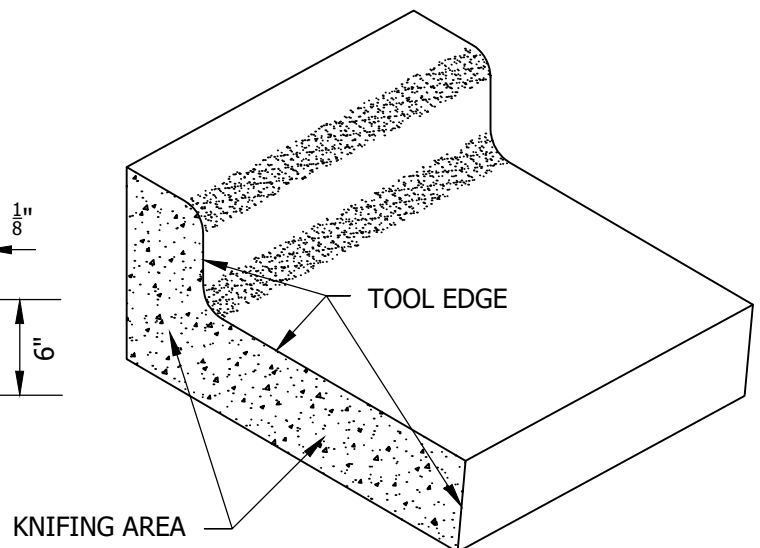
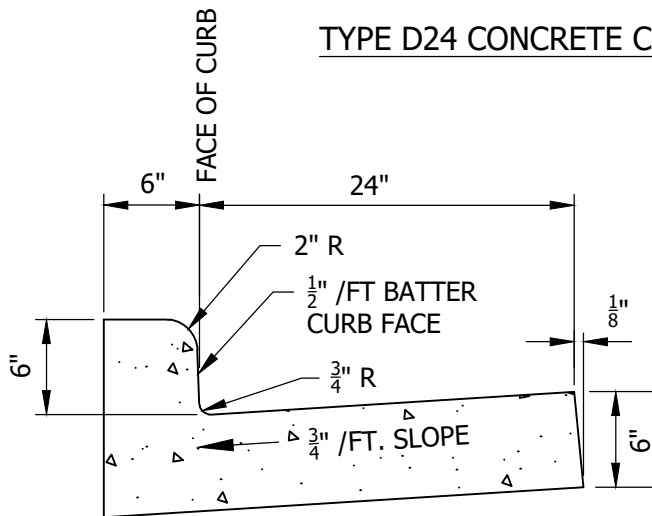
SECTION 6 - STREETS INDEX

LAST REVISION:
March 2019

PLATE NO.
STR



TYPE D24 CONCRETE CURB AND GUTTER



TYPE D30 CONCRETE CURB AND GUTTER

NOTES:

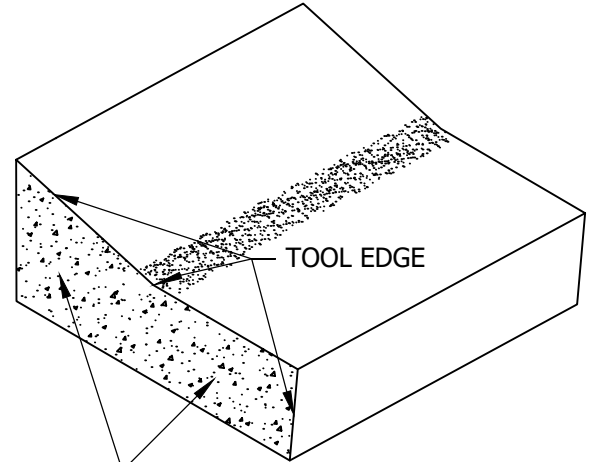
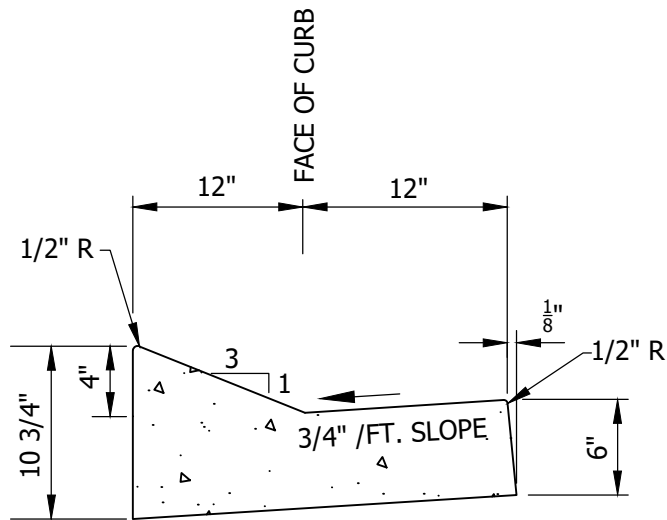
1. ALL EXPANSION AND CONSTRUCTION JOINTS SHALL BE TOOLED ALONG ENTIRE TOP AND FACE OF CURB AND GUTTER AND KNIFED THROUGH THE ENTIRE DEPTH.



CURB AND GUTTER

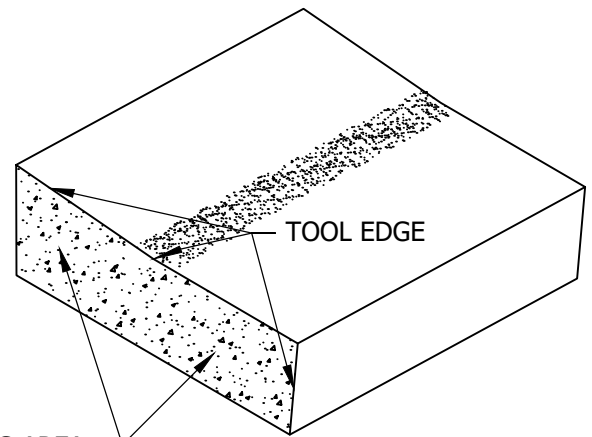
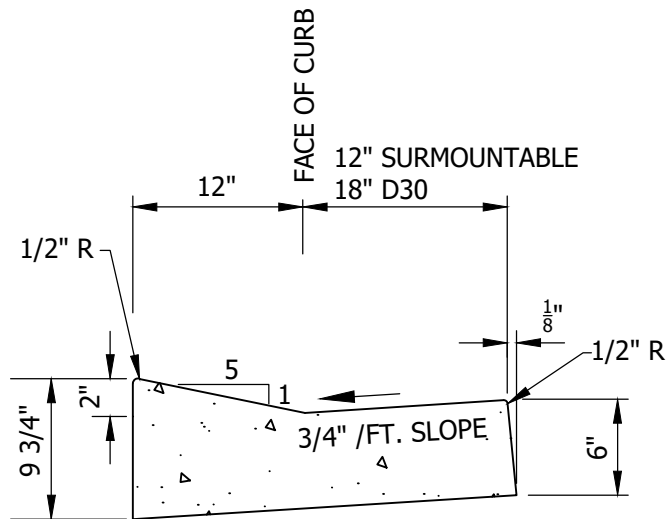
LAST REVISION:
March 2019

PLATE NO.
STR-1



KNIFING AREA

SURMOUNTABLE CONCRETE CURB AND GUTTER



KNIFING AREA

DRIVEWAY CONCRETE CURB AND GUTTER

NOTES:

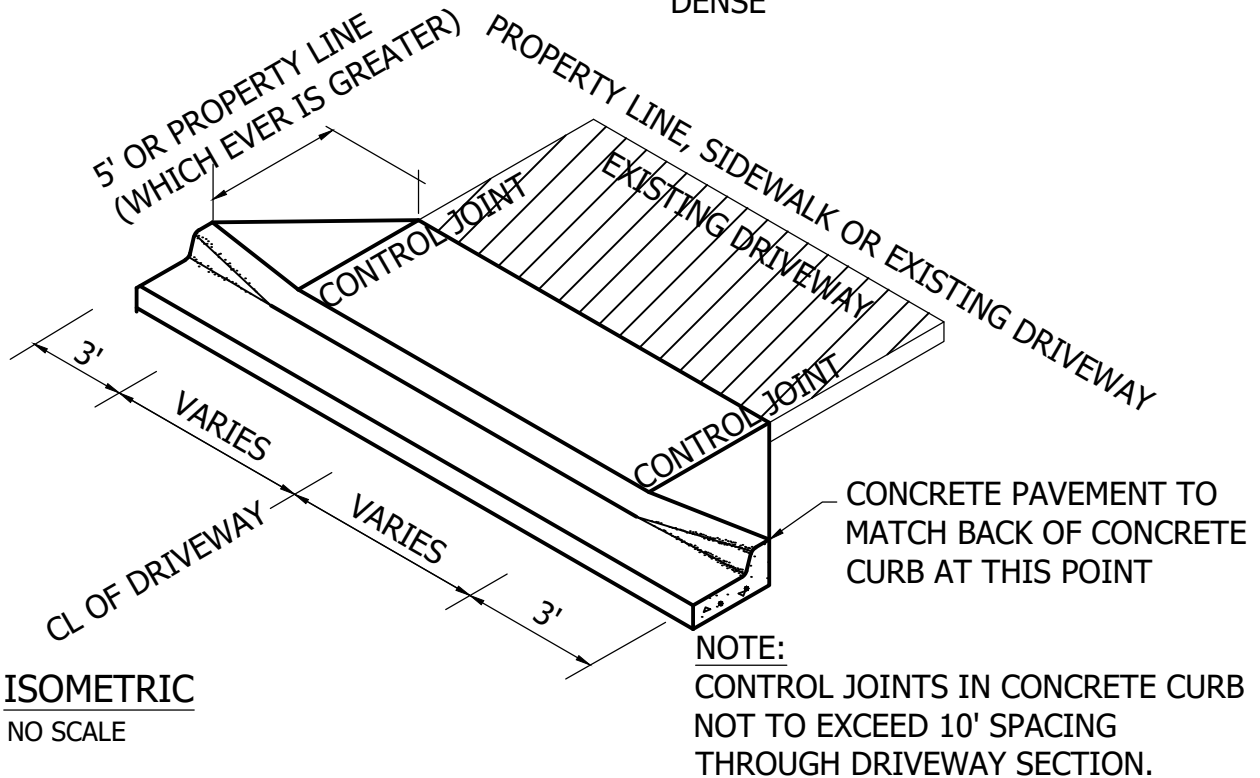
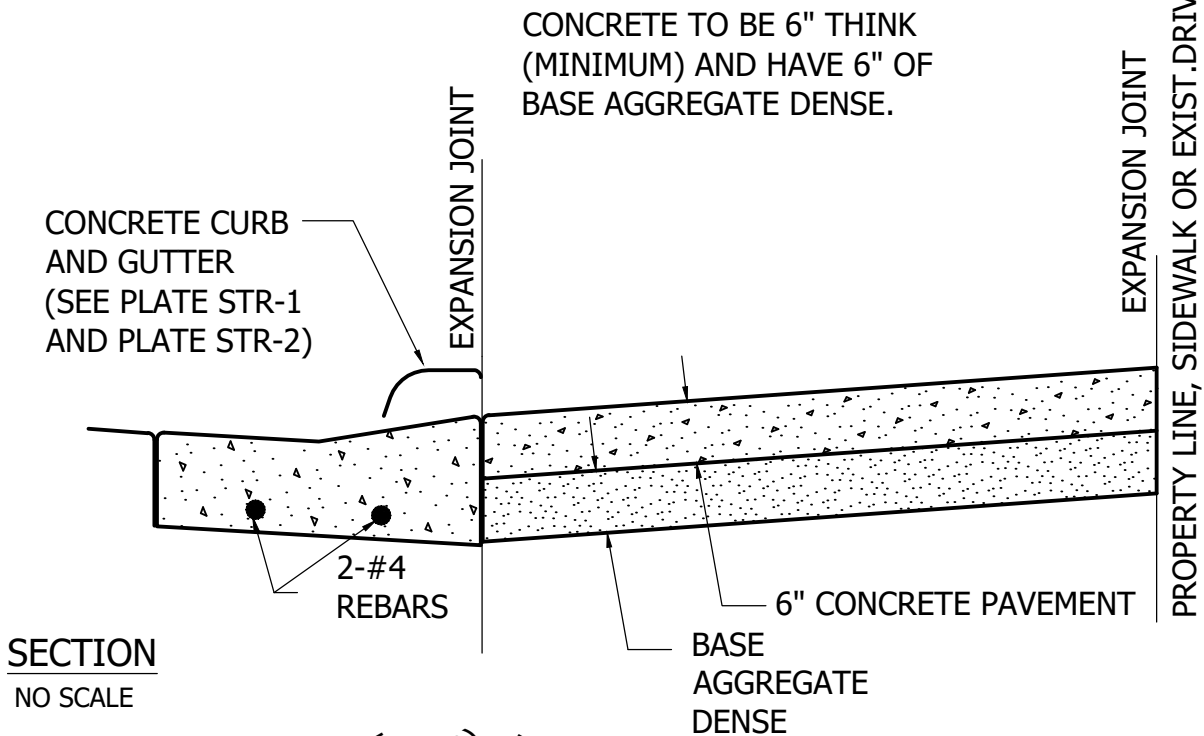
1. ALL EXPANSION AND CONSTRUCTION JOINTS SHALL BE TOOLED ALONG ENTIRE TOP AND FACE OF CURB AND GUTTER AND KNIFED THROUGH THE ENTIRE DEPTH.



SURMOUNTABLE AND DRIVEWAY CURB AND GUTTER

LAST REVISION:
March 2019

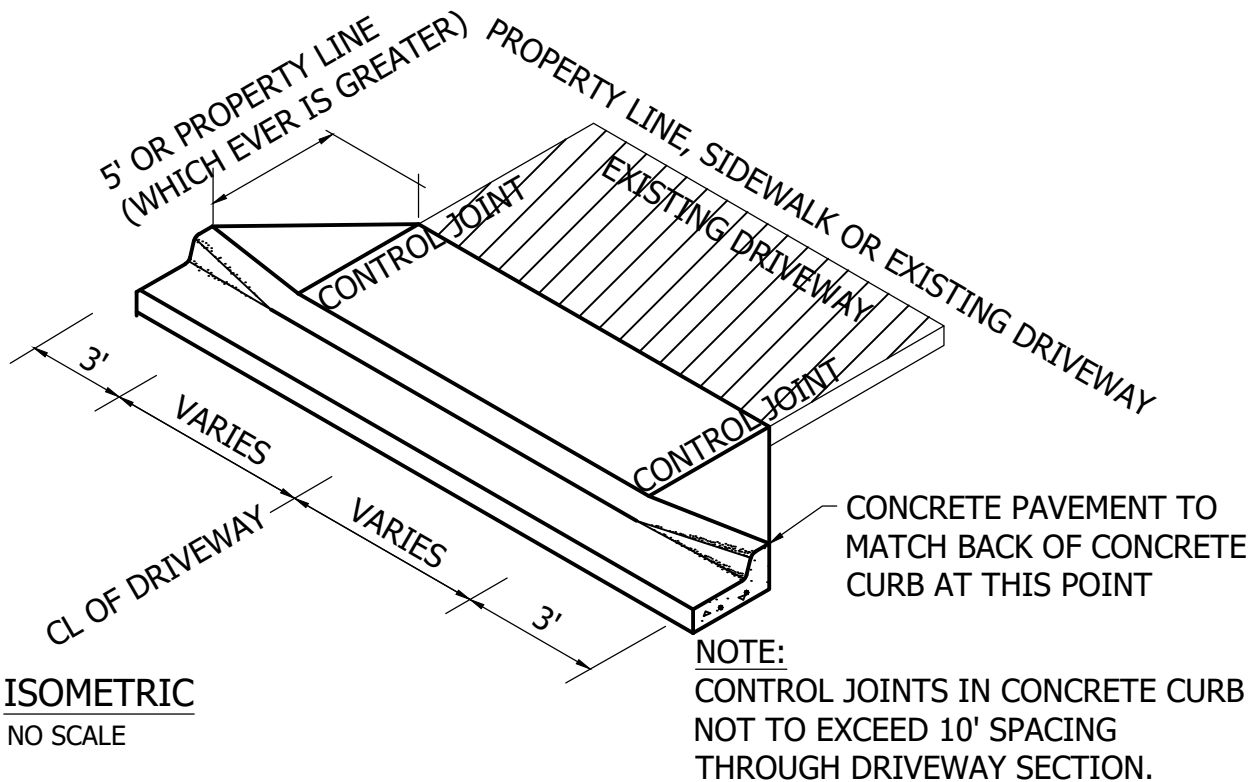
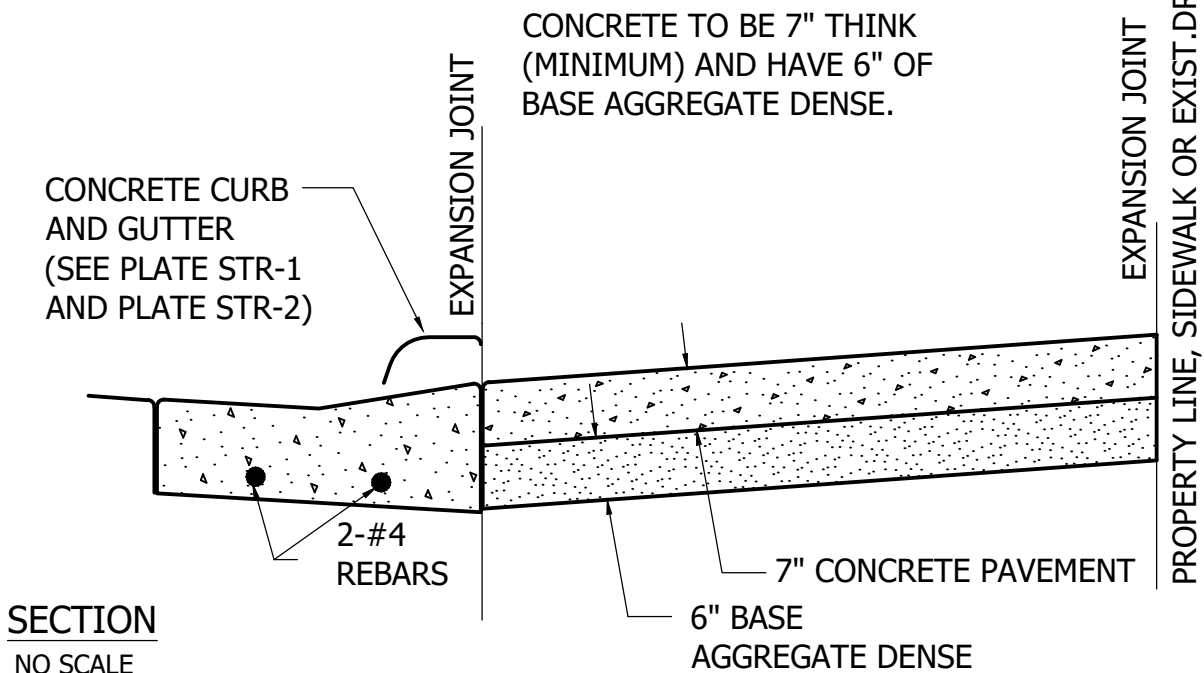
PLATE NO.
STR-2



CONCRETE DRIVEWAY APRON - RESIDENTIAL

LAST REVISION:
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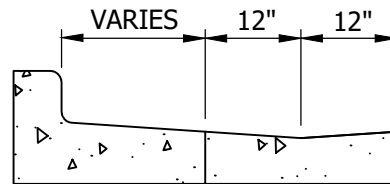
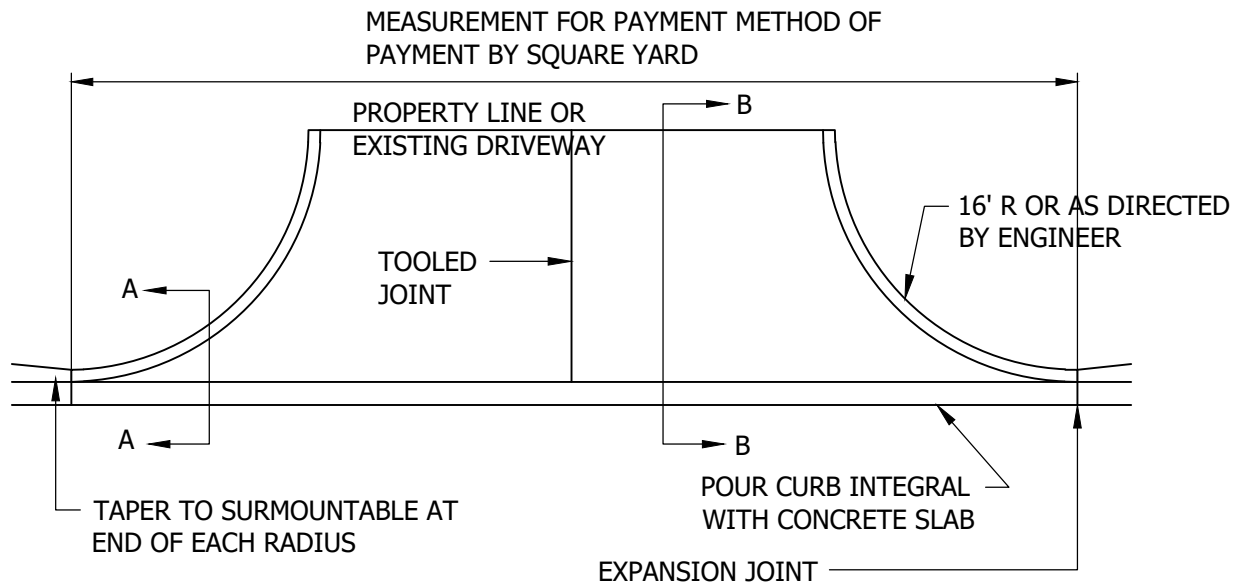
PLATE NO.
STR-3



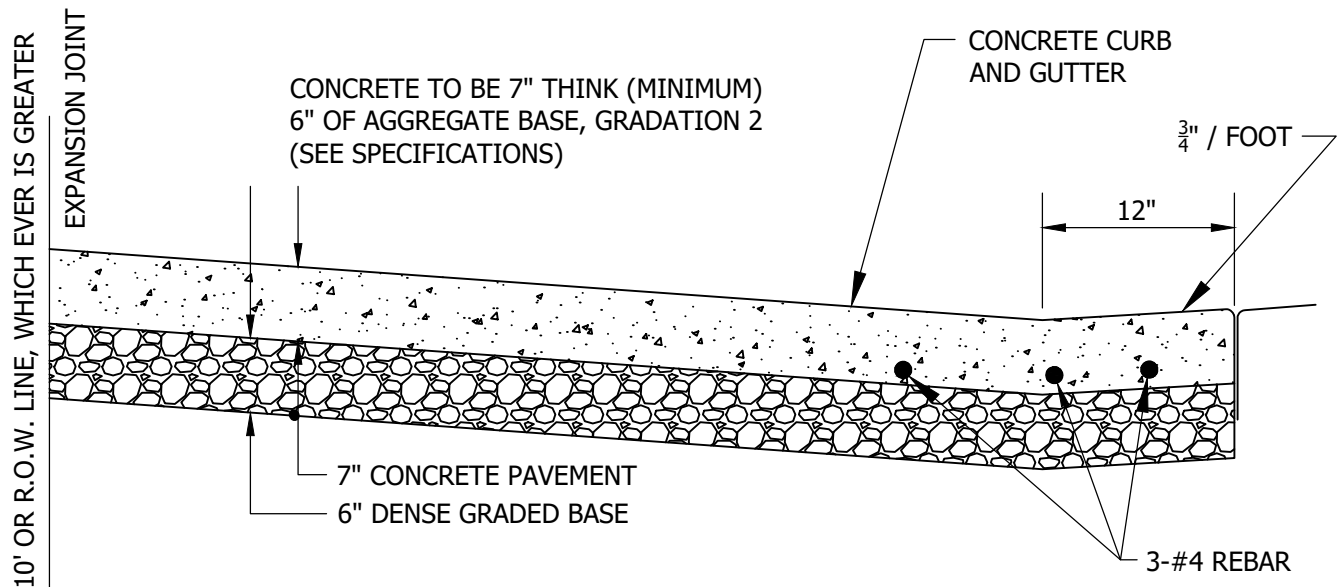
CONCRETE DRIVEWAY APRON - ALLEY

LAST REVISION:
March 2019

PLATE NO.
STR-4



SECTION A-A



SECTION B-B THRU CONCRETE APRON



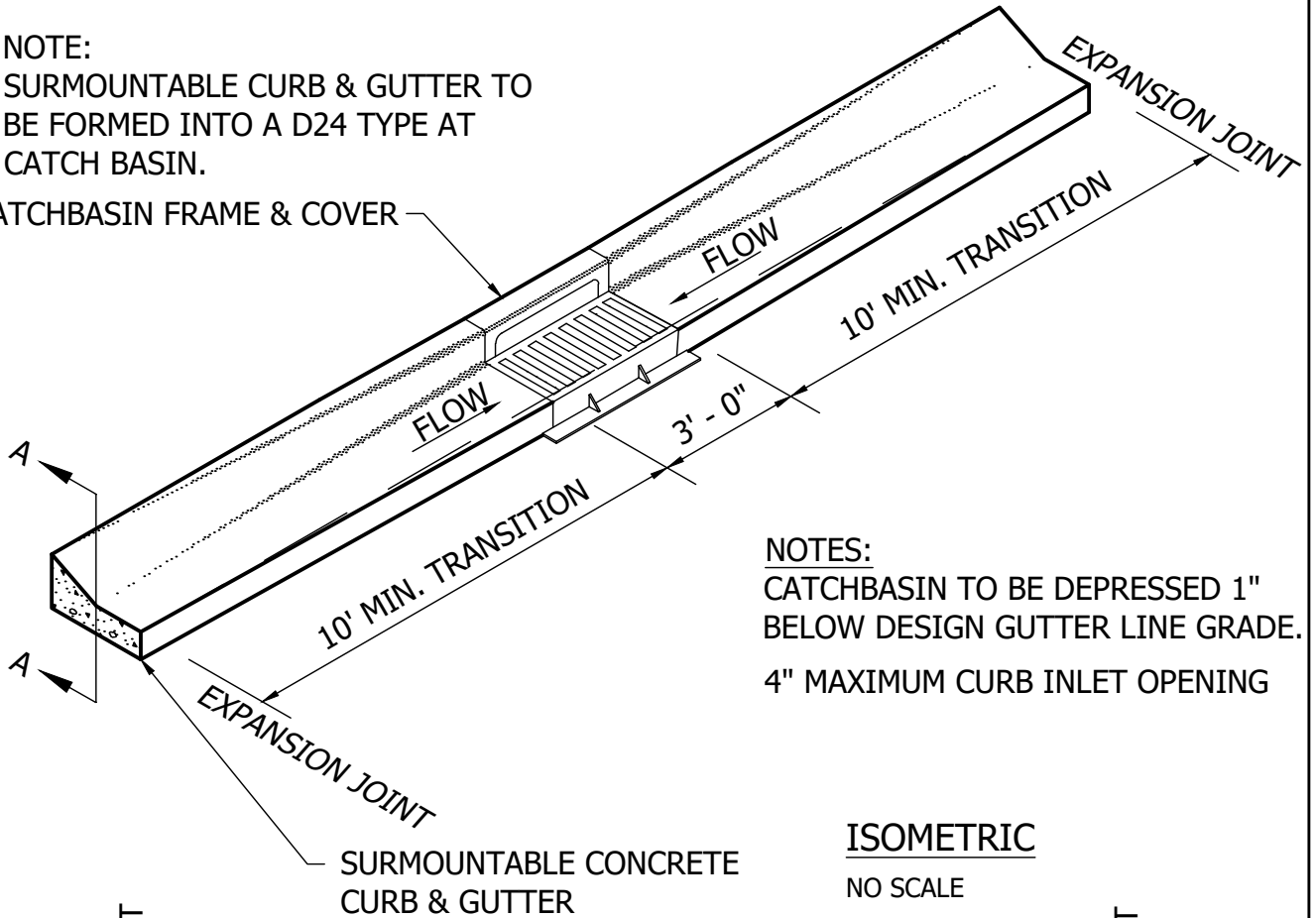
COMMERCIAL DRIVEWAY
CONCRETE APRON
WITH CURB

LAST REVISION:
March 2019

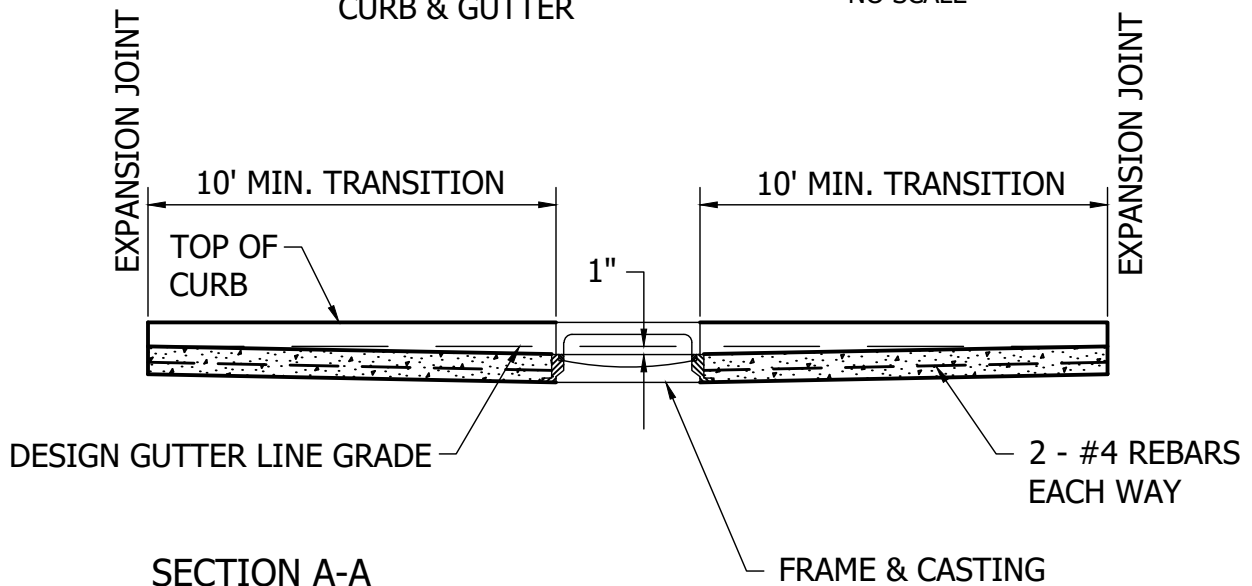
PLATE NO.
STR-5

NOTE:
SURMOUNTABLE CURB & GUTTER TO
BE FORMED INTO A D24 TYPE AT
CATCH BASIN.

CATCHBASIN FRAME & COVER



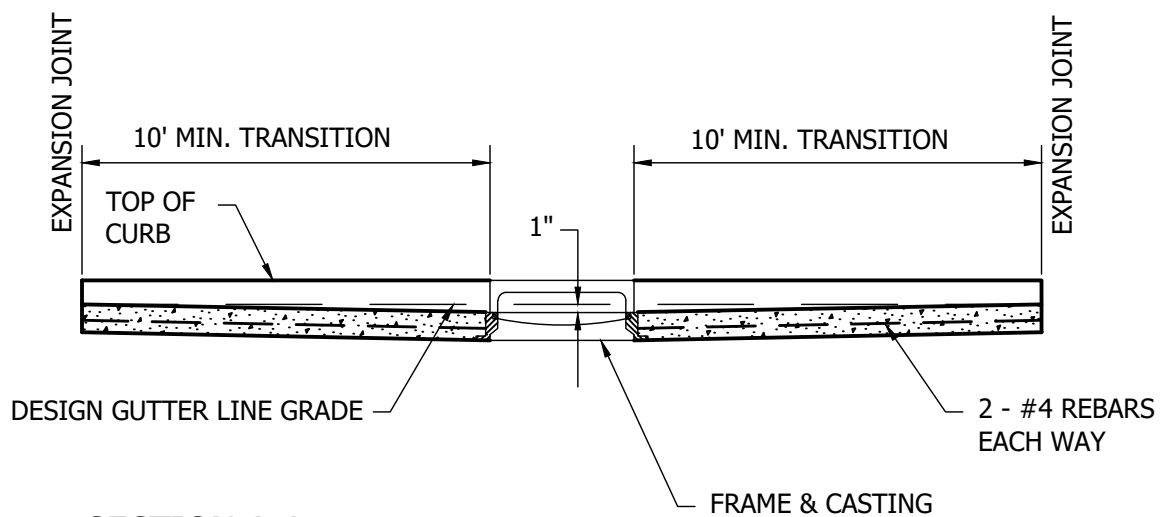
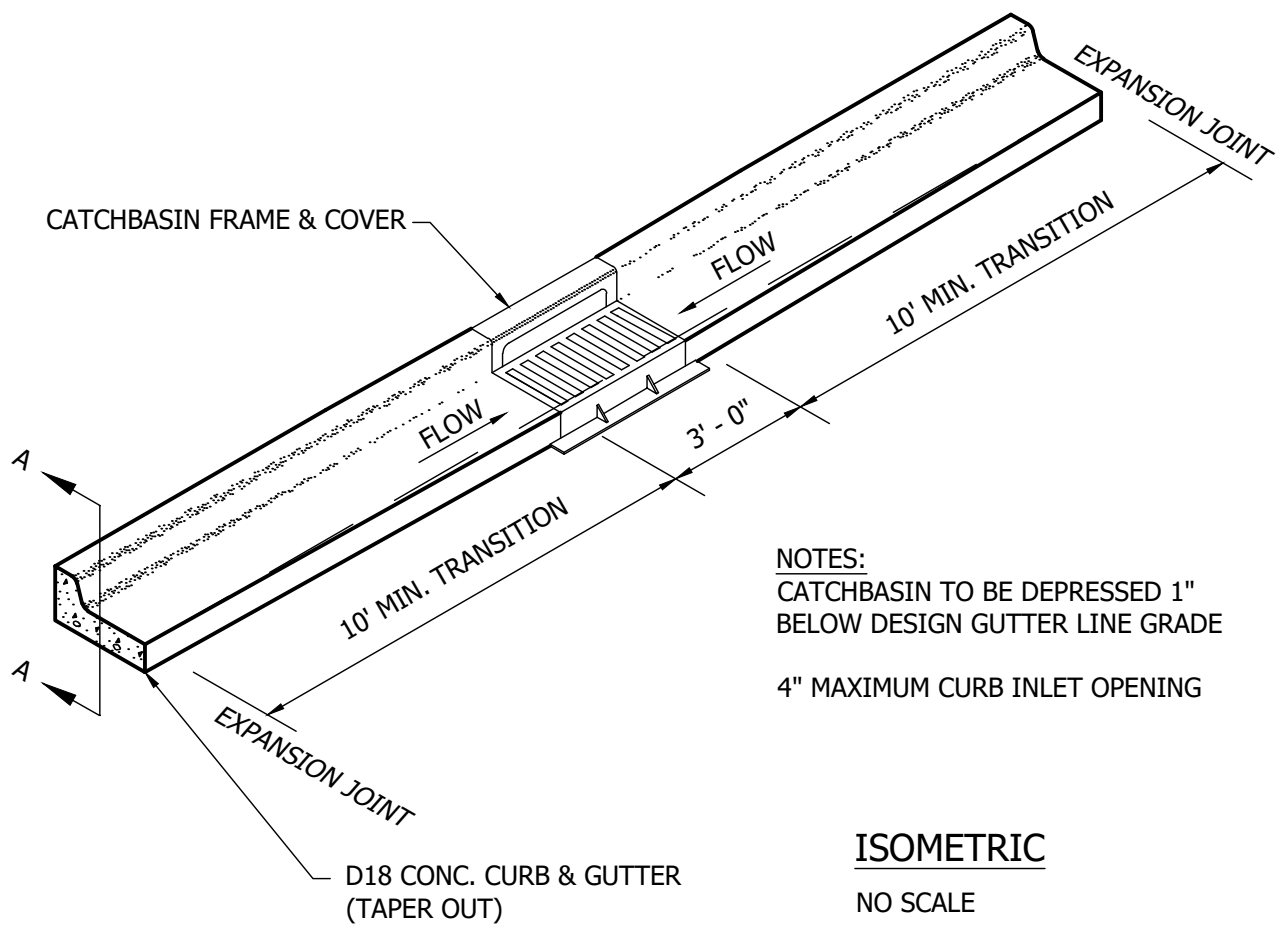
NOTES:
CATCHBASIN TO BE DEPRESSED 1"
BELOW DESIGN GUTTER LINE GRADE.
4" MAXIMUM CURB INLET OPENING



SURMOUNTABLE CURB & GUTTER
CONSTRUCTION AT CATCH BASIN

LAST REVISION:
March 2019

PLATE NO.
STR-6



SECTION A-A

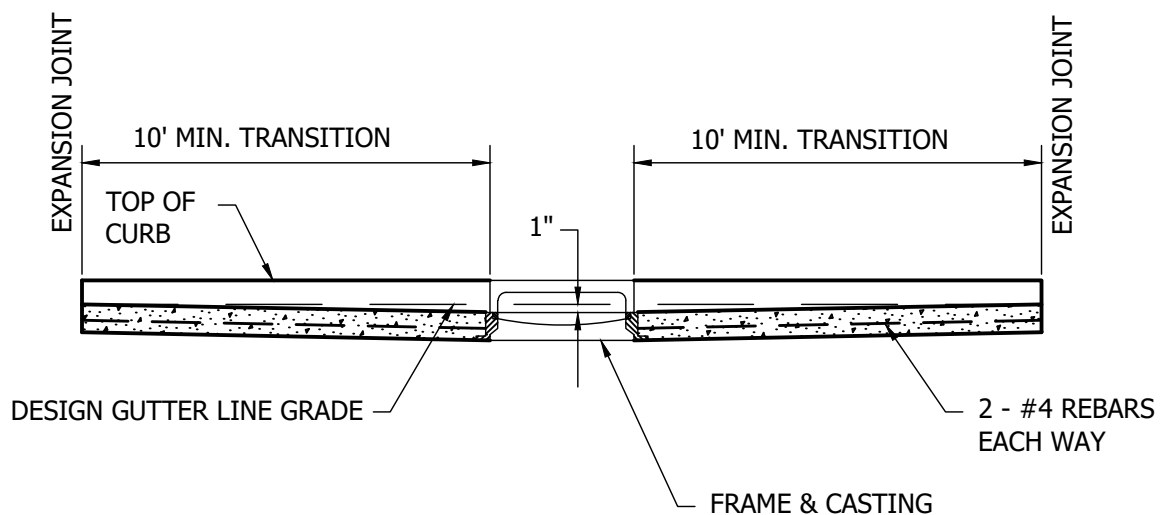
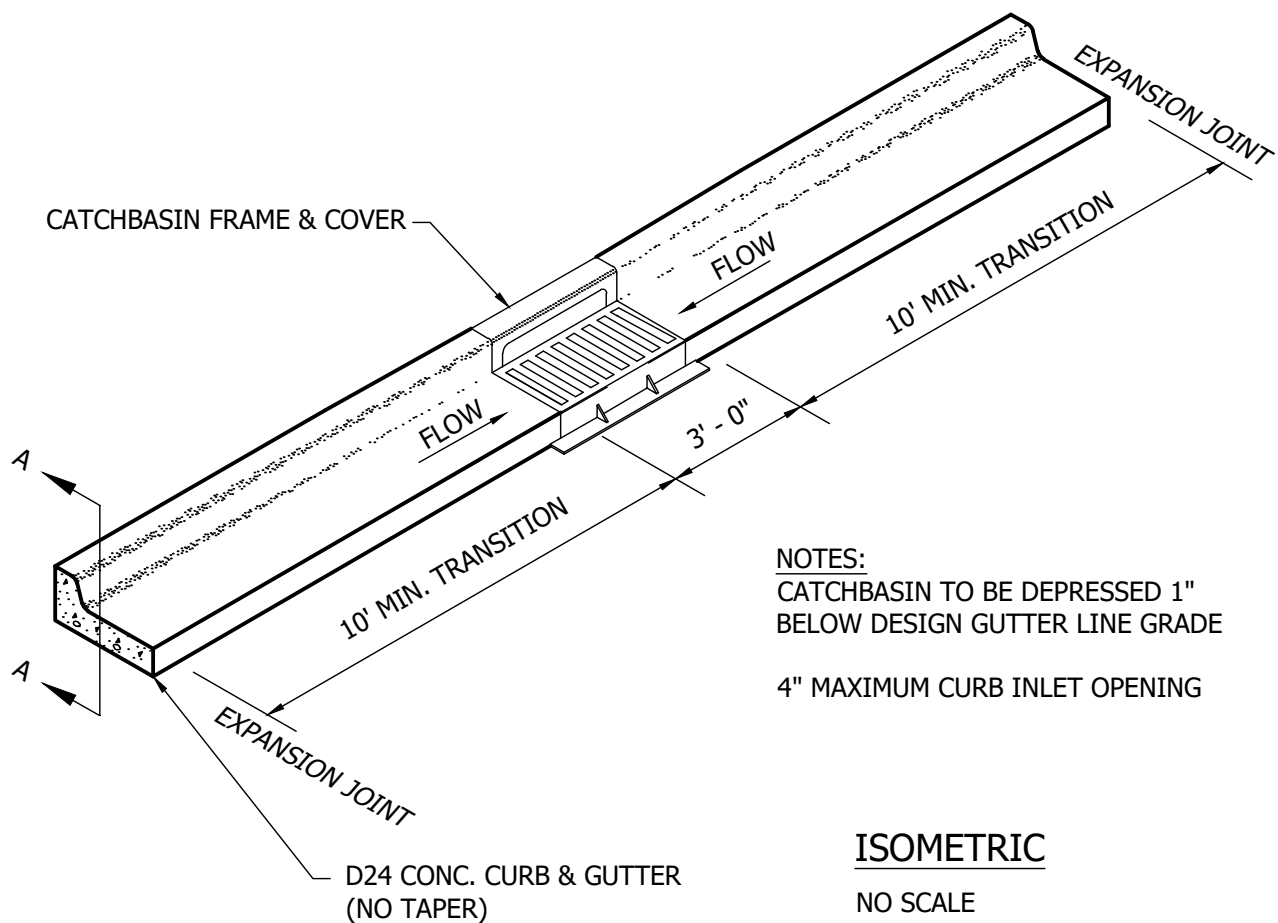
NO SCALE



**D18 CURB & GUTTER
CONSTRUCTION AT CATCH BASIN**

LAST REVISION:
March 2019

PLATE NO.
STR-7



SECTION A-A

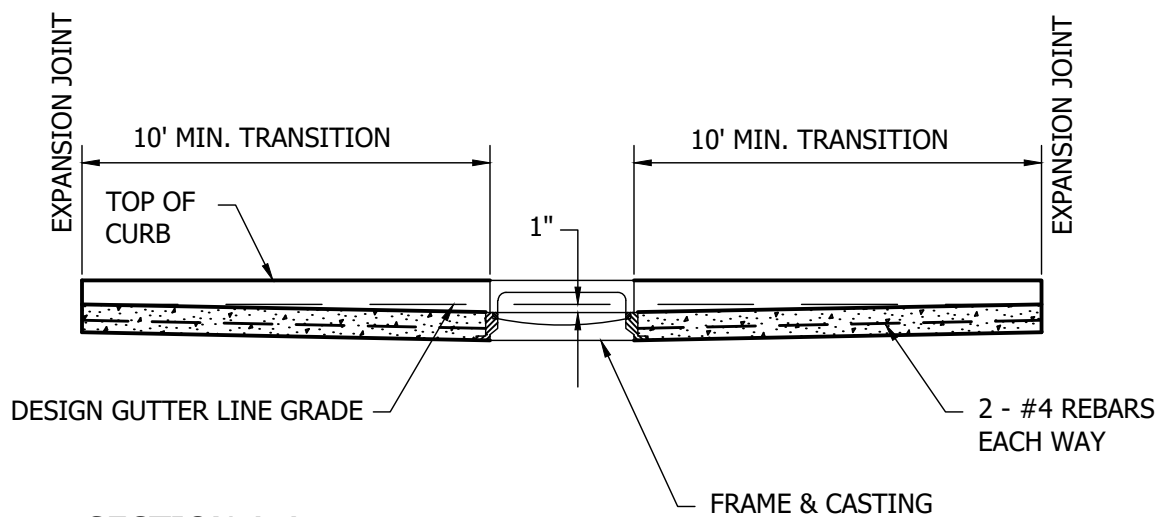
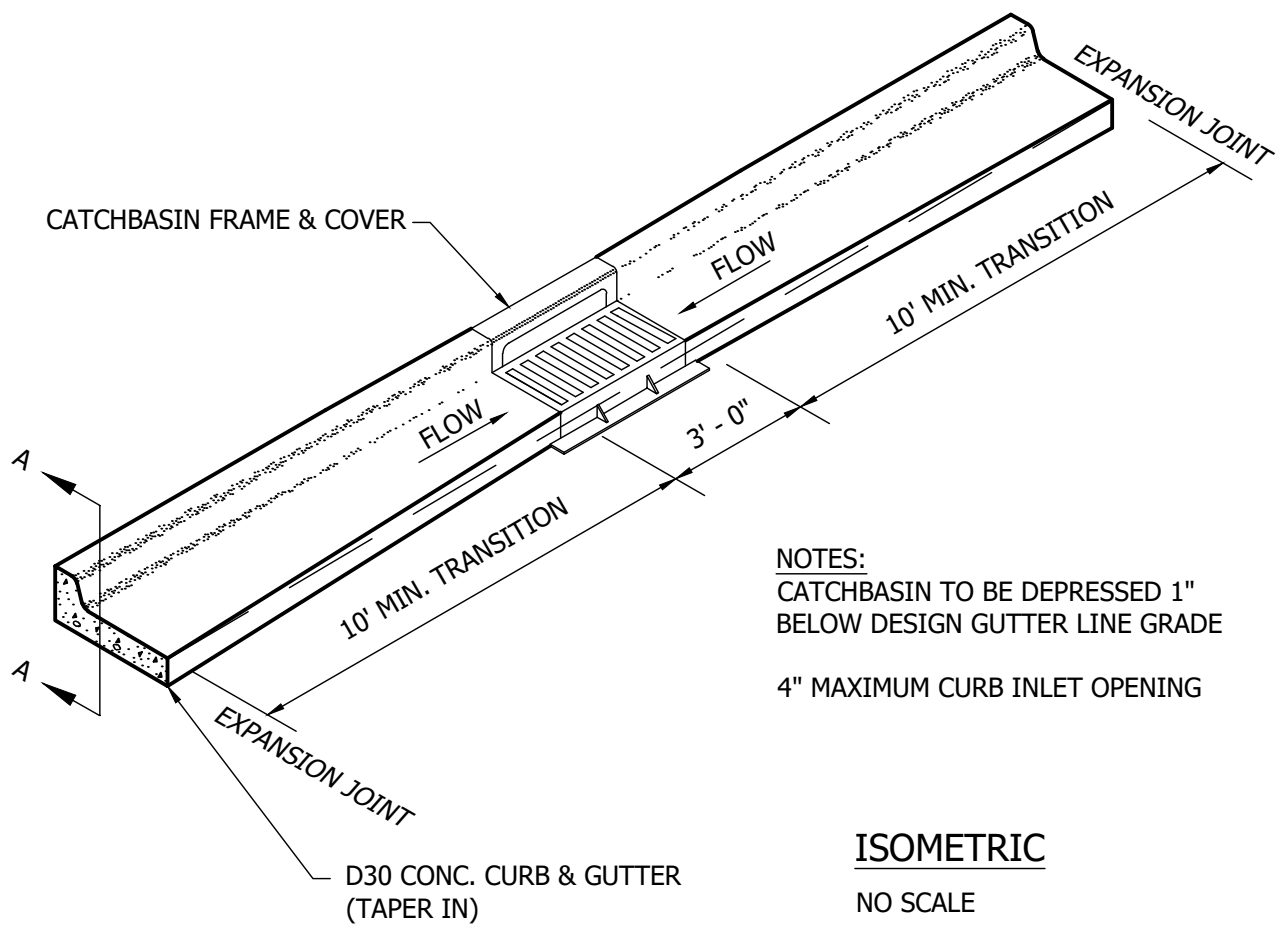
NO SCALE



D24 CURB & GUTTER CONSTRUCTION AT CATCH BASIN

LAST REVISION:
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PLATE NO.
STR-8



SECTION A-A

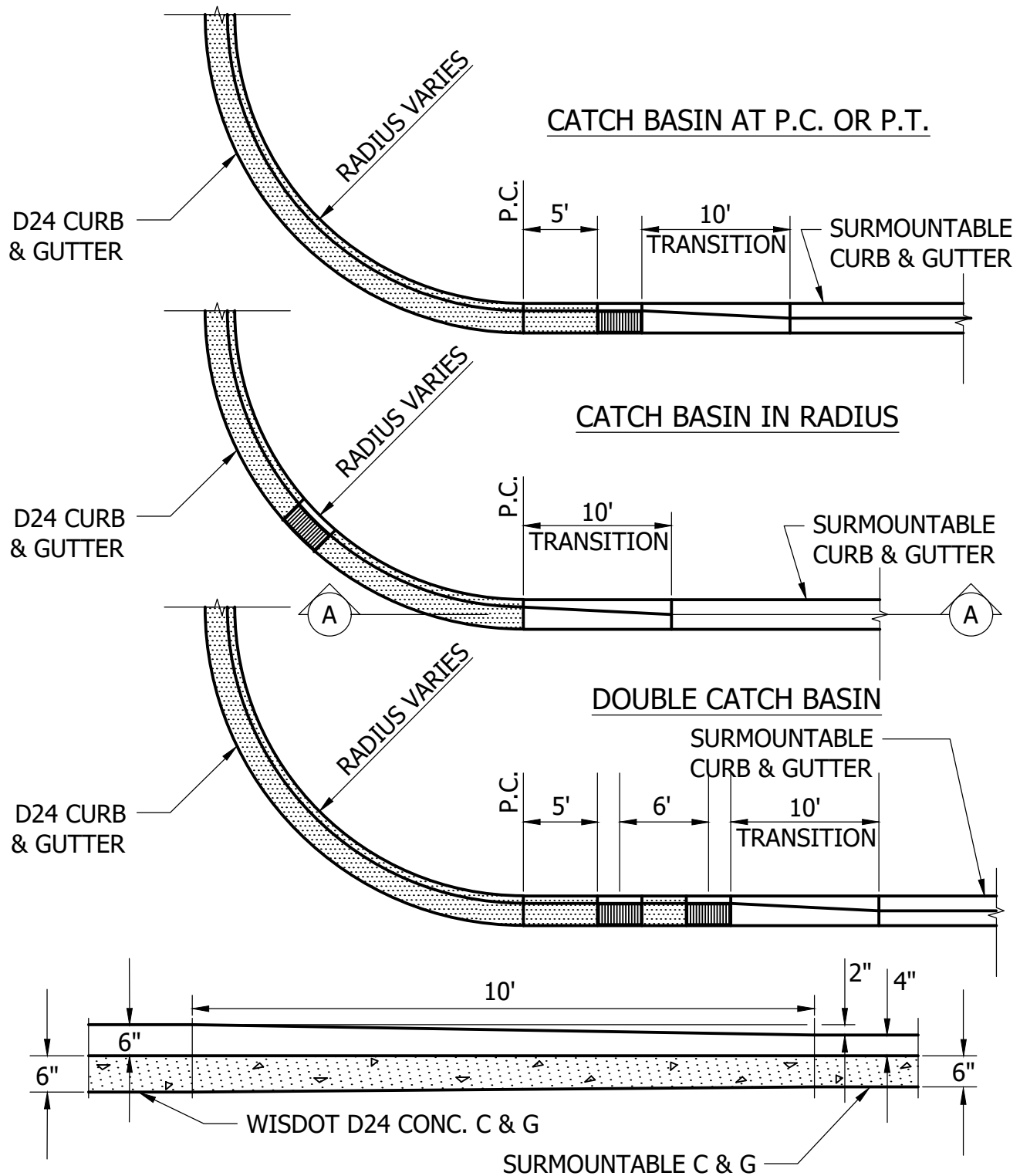
NO SCALE



**D30 CURB & GUTTER
CONSTRUCTION AT CATCH BASIN**

LAST REVISION:
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PLATE NO.
STR-9



SECTION A-A

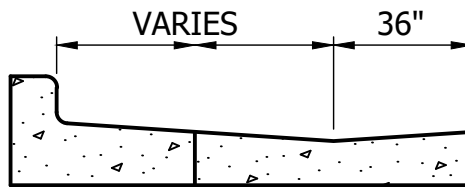
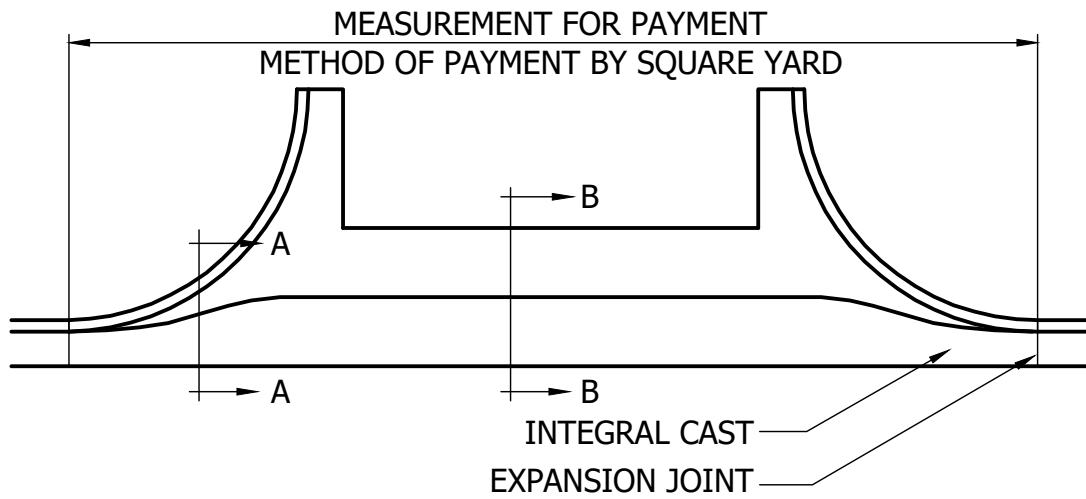
NOTE: ALL RADII "D" STYLE



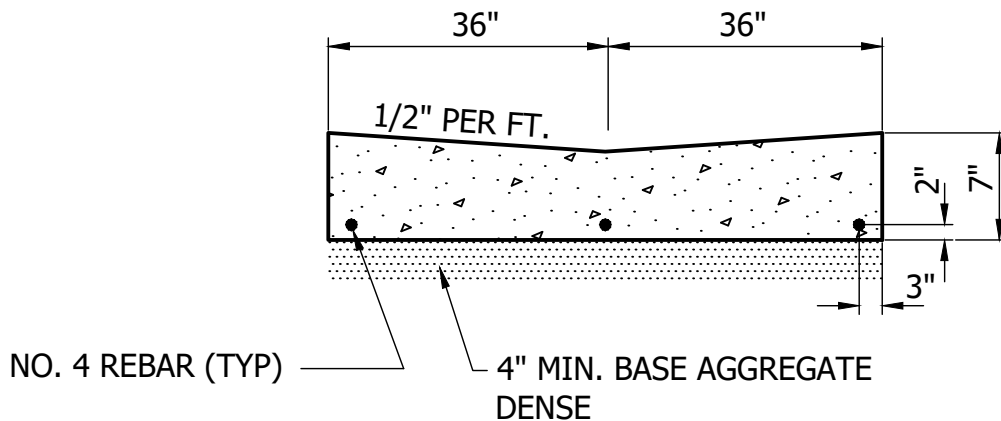
CONCRETE CURB & GUTTER TRANSITIONS

LAST REVISION:
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PLATE NO.
STR-10



SECTION A-A THRU
D24 C & G



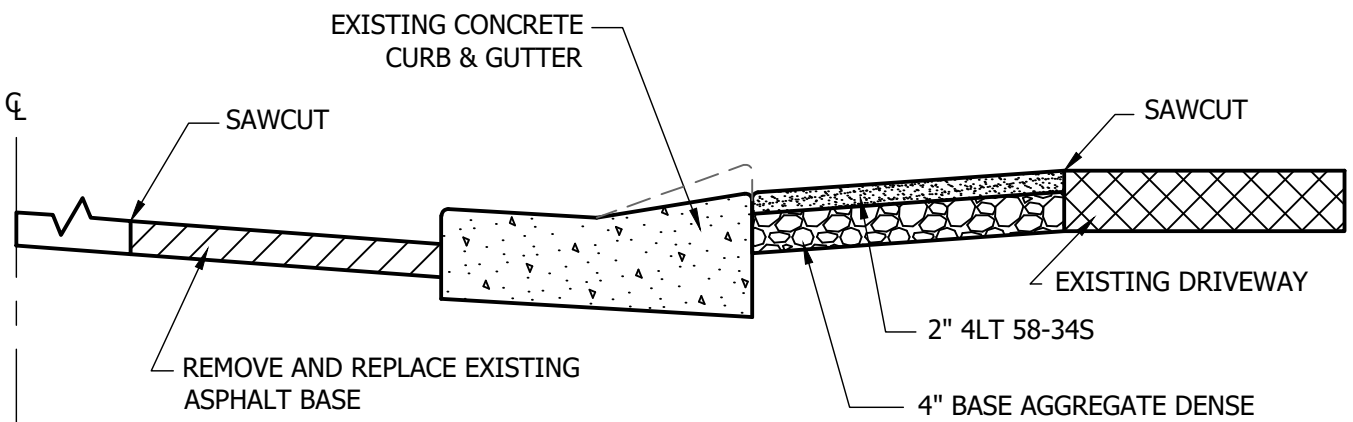
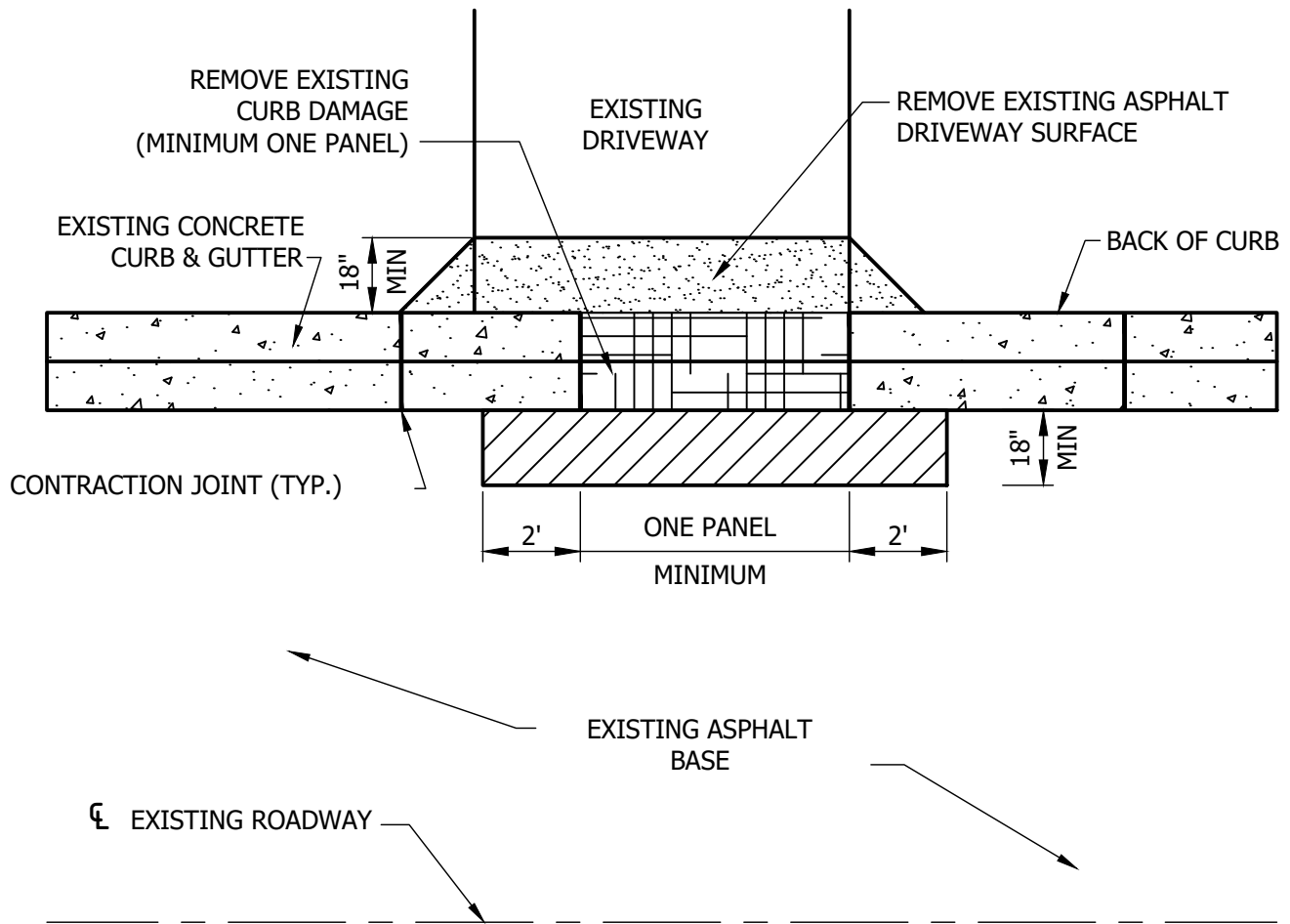
SECTION B-B
THRU CONCRETE GUTTER



CONCRETE VALLEY GUTTER

LAST REVISION:
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PLATE NO.
STR-11



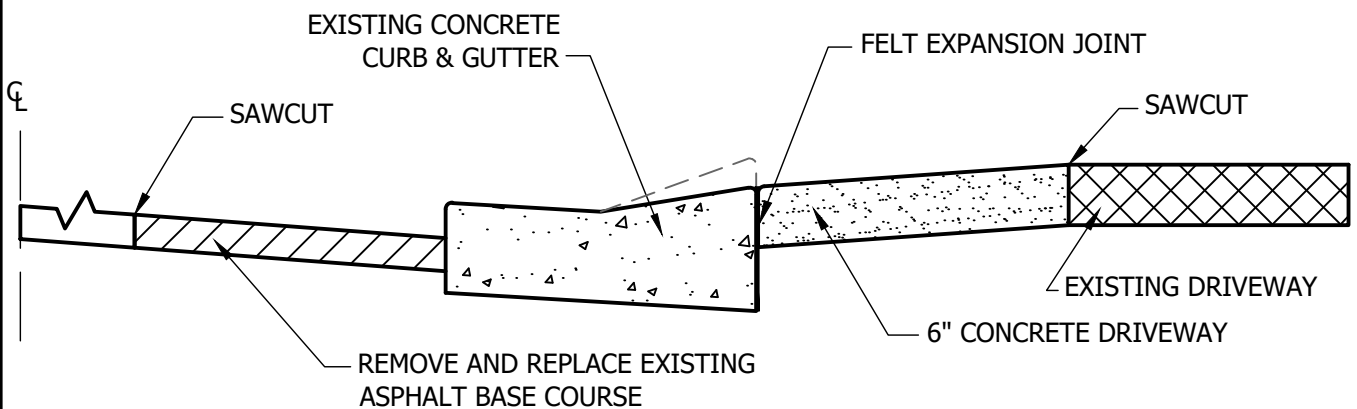
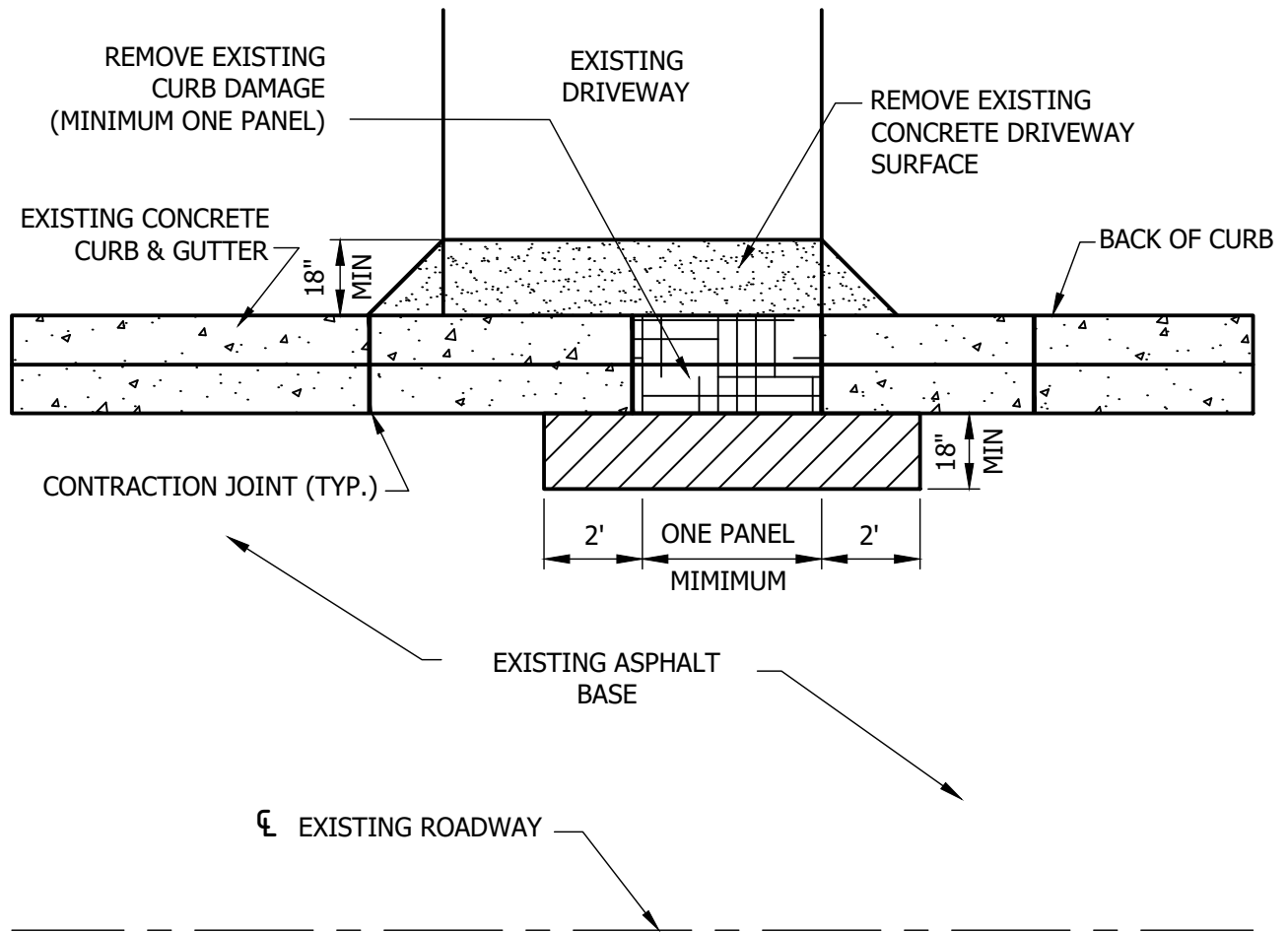
SECTION



CONCRETE CURB REPLACEMENT DRIVE LOCATION (ASPHALT D/W APRON)

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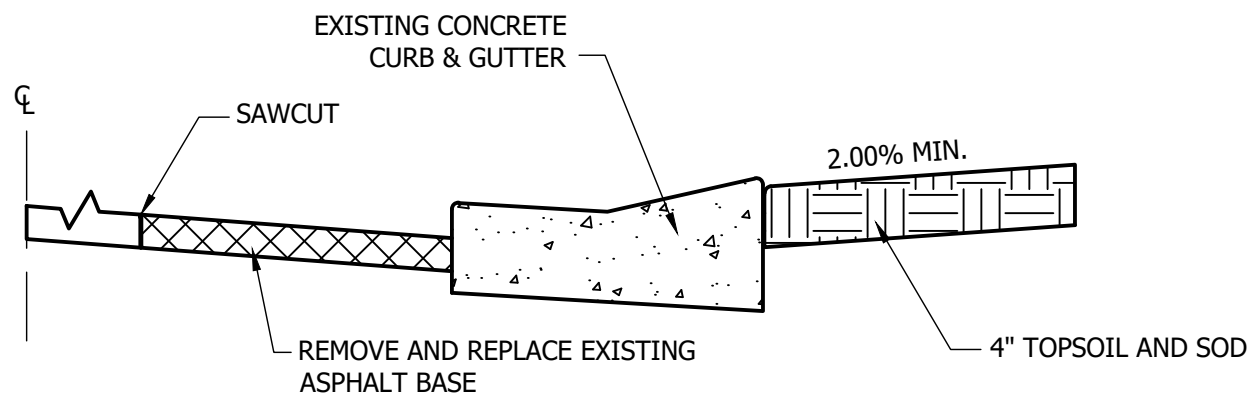
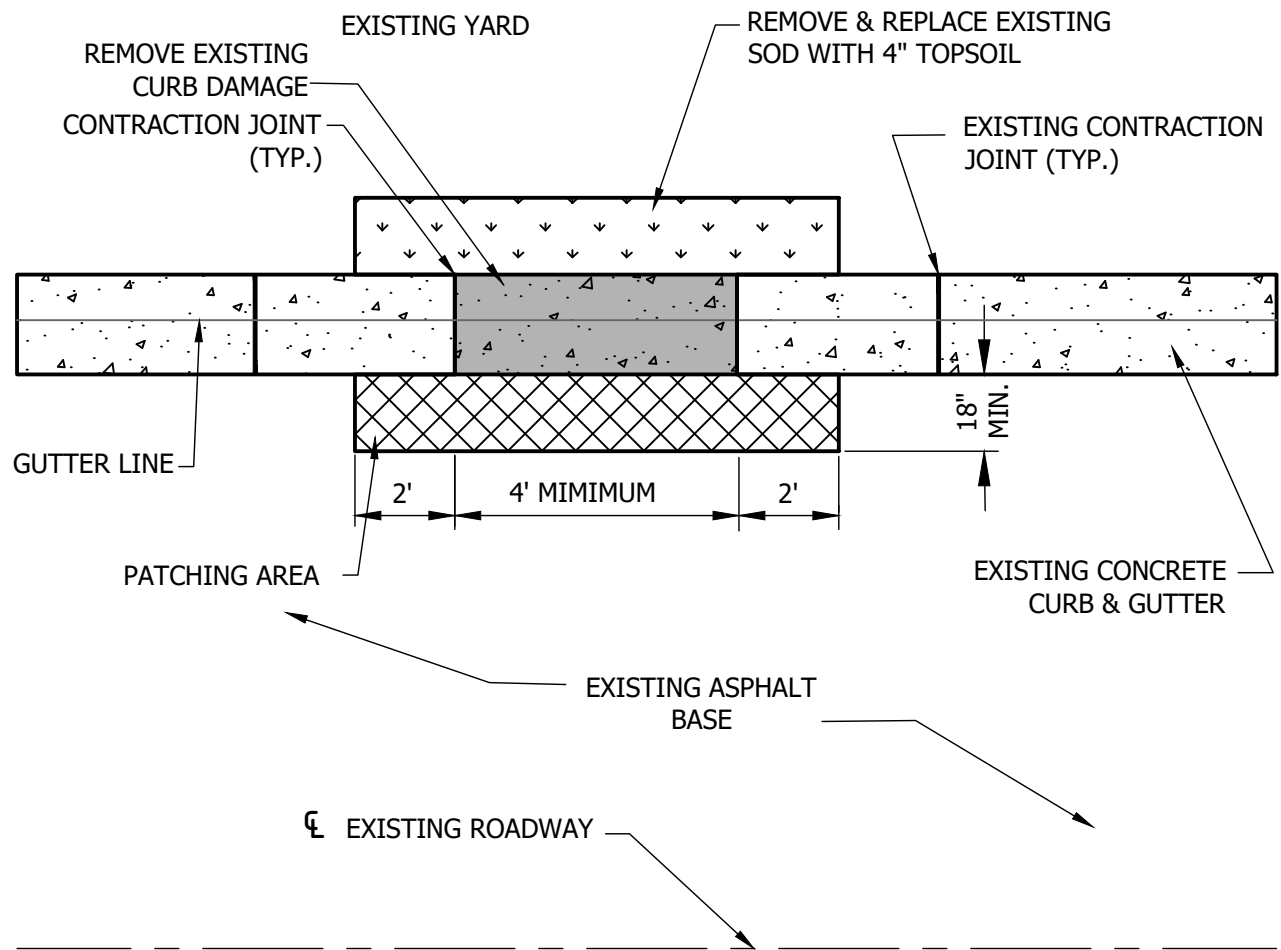
SECTION



CONCRETE CURB REPLACEMENT DRIVE LOCATION (CONCRETE D/W APRON)

LAST REVISION:
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PLATE NO.
STR-13



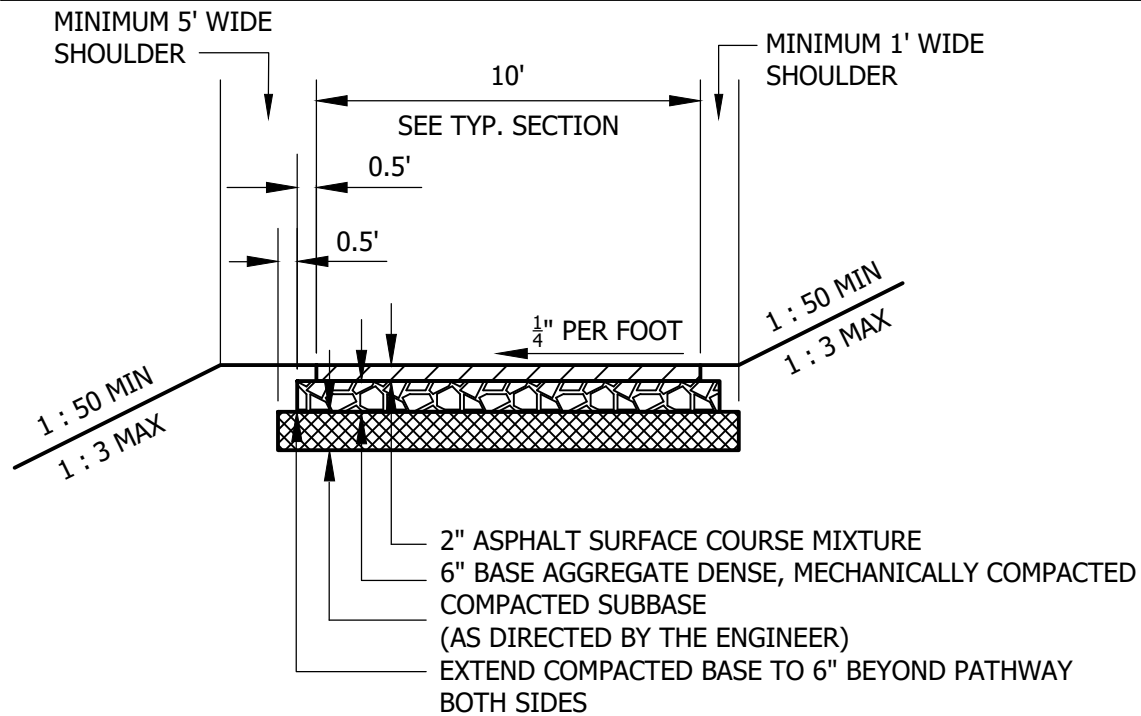
SECTION



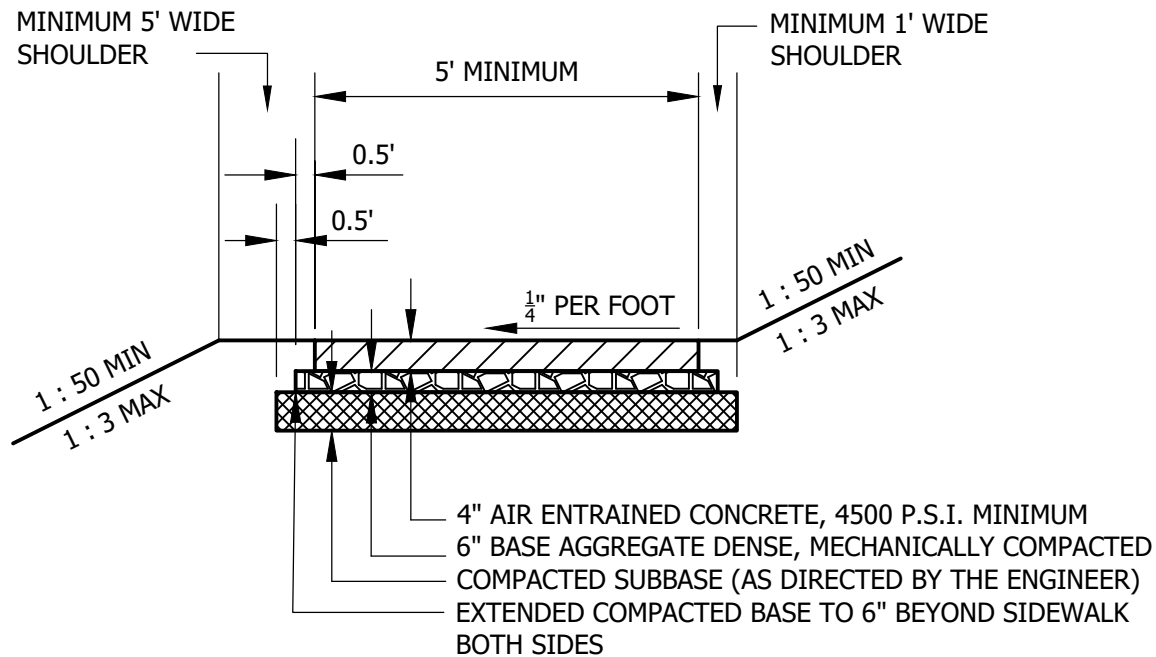
CONCRETE CURB REPLACEMENT NON DRIVEWAY LOCATION

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STR-14



ASPHALT TRAIL



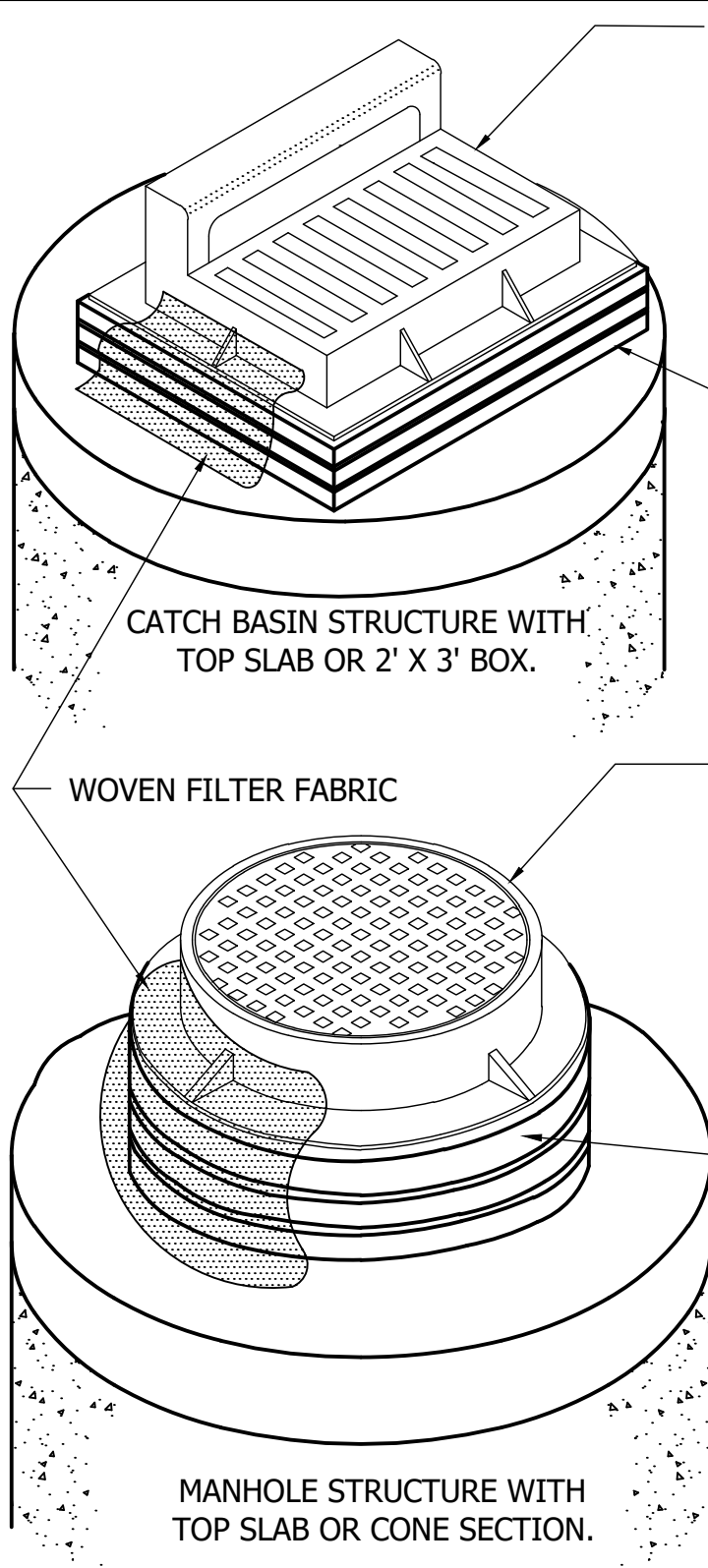
CONCRETE SIDEWALK



TYPICAL SECTION FOR ASPHALT TRAIL AND CONCRETE SIDEWALK

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NEENAH R-3067-VB CATCH BASIN FRAME AND GRATE AT LOW POINTS. R-3067-V CATCH BASIN FRAME AND GRATE AT ALL OTHER LOCATIONS. SHALL BE FURNISHED WITH CURB INLET BOX AND 3" DIA. FRONT FACE AND 4" MAXIMUM OPENING.

HIGH DENSITY POLYETHYLENE (HDPE) ADJUSTMENT RINGS.

CATCH BASIN STRUCTURE WITH TOP SLAB OR 2' X 3' BOX.

WOVEN FILTER FABRIC

SANITARY SEWER
NEENAH R-1642 "SELF SEALING" MANHOLE FRAME AND TYPE "B" PLATEN LID WITH 2 CONCEALED PICK HOLES.

STORM SEWER
NEENAH R-1642 MANHOLE FRAME, WITH OPEN HOLE (PLATEN STYLE).

HIGH DENSITY POLYETHYLENE (HDPE) ADJUSTMENT RINGS.

SANITARY SEWER EXTERNAL CHIMNEY SEAL FROM ADAPTOR INC. OR APPROVED EQUAL. (USED ON OFF STREET APPLICATIONS ONLY)

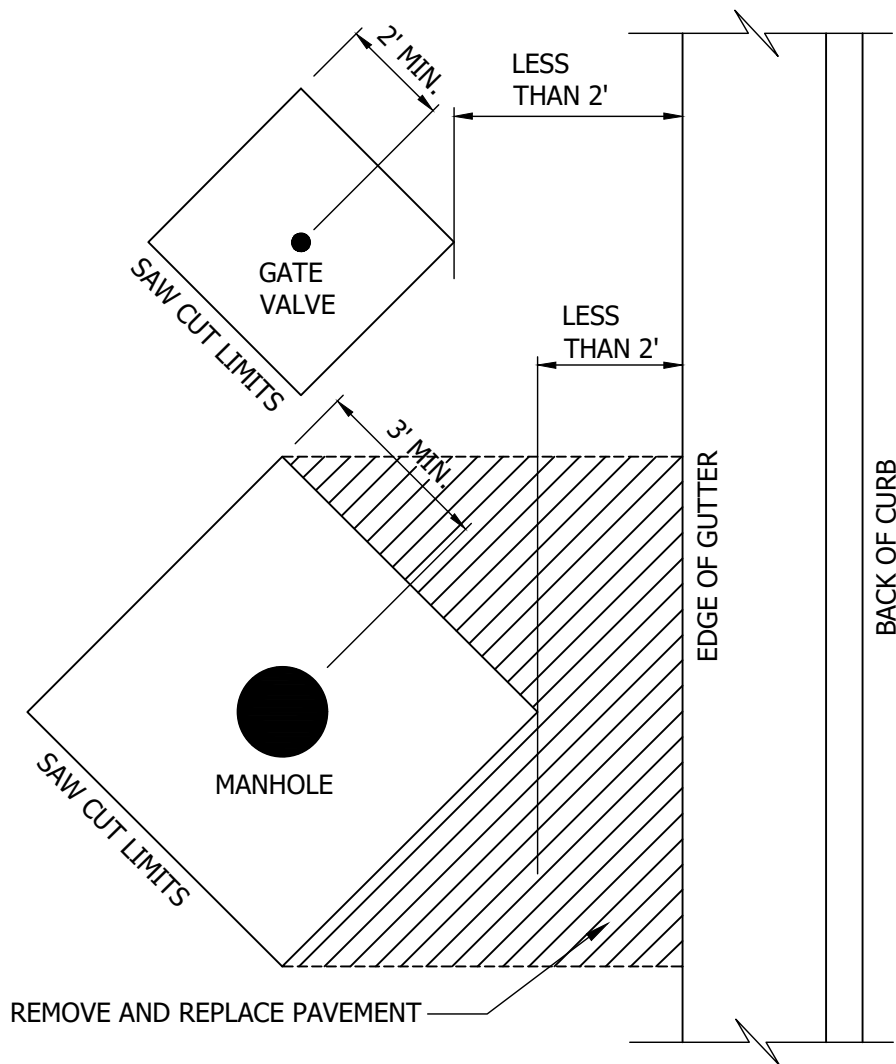
MANHOLE STRUCTURE WITH TOP SLAB OR CONE SECTION.



CATCH BASIN & MANHOLE ADJUSTMENT
(HIGH DENSITY POLYETHYLENE RINGS)

LAST REVISION:
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PLATE NO.
STR-16



NOTE:

1. SAW CUT FULL DEPTH THROUGH ASPHALT AND CONCRETE PAVEMENT SQUARE (DIAMOND SHAPED RELATIVE TO THE ROADWAY) A MINIMUM OF 4' FROM CENTER OF MANHOLES AND A MINIMUM OF 3' FROM CENTER OF GATE VALVES.
2. THE REMOVAL DIMENSIONS SHALL MINIMALLY ALLOW FOR VIBRATORY PLATE COMPACTION TO OPERATE PROPERLY.
3. ADJUST ALL SIDES OF STRUCTURES $\frac{1}{2}$ " LOWER THAN ADJACENT FINAL GRADE, MATCHING STREET GRADES AND CROSS-SLOPES.
4. UTILIZE $\frac{1}{2}$ " THICK PUCKS ON GATE VALVES AND $\frac{1}{2}$ " THICK CIRCULATOR PLATES ON MANHOLES FOR ALL PAVING OF STREETS, DRIVEWAYS, PATHS AND PARKING AREAS.
5. CLEAN ALL LIDS OF ALL GRAVEL, ASPHALT OR CONCRETE DURING PAVING OPERATIONS WHILE ASPHALT IS HOT AND/OR CONCRETE IS PLASTIC.
6. ANY SAW CUT CLOSER THAN 2' TO THE EDGE OF THE GUTTER SHALL BE EXTENDED TO THE EDGE OF THE GUTTER AND THAT ADDITIONAL PAVEMENT REMOVED AND REPLACED, AS DIRECTED BY THE CITY.



**STRUCTURE ADJUSTMENT
(ASPHALT OR CONCRETE)**

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STR-17

ADD "END OF ROAD MARKER"
(OM4-2 RED ON BLACK)

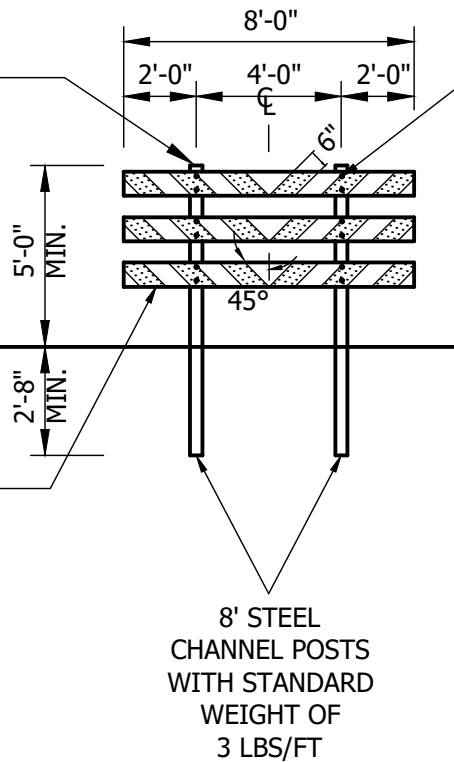


X4-11

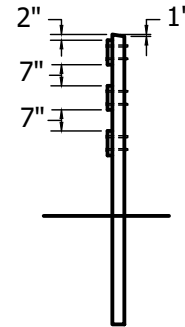
MOUNT ABOVE TOP
PANEL ON POST

EX. GROUND

NOMINAL
1"X8"X8'-0"



1/2"X6" GALVANIZED BOLTS
WITH CUT WASHERS
(CARRIAGE, HEX. OR SQ.)



NOTES:

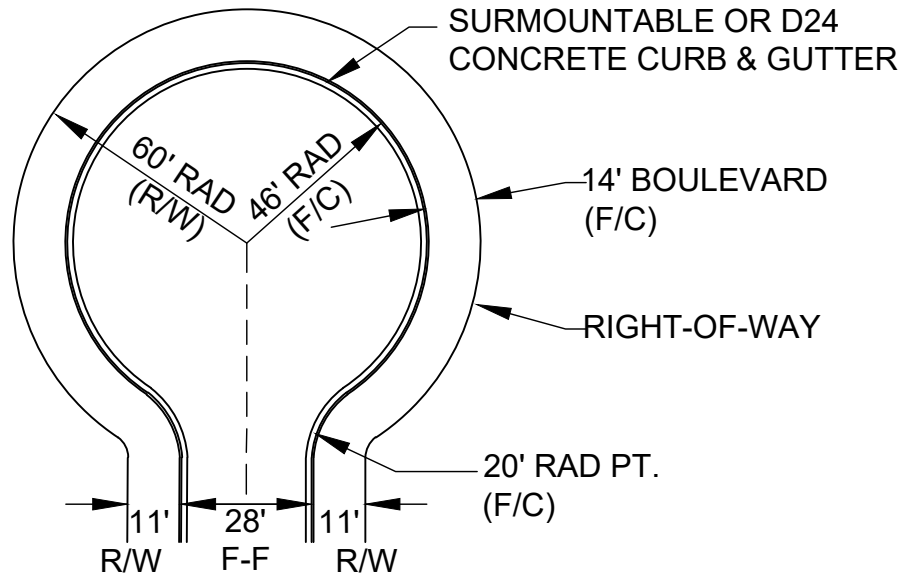
1. THE PLACEMENT OF THE BARRICADE SHALL BE 10'-0" FROM THE END OF THE ASPHALT ROAD WITH THE BARRICADE CENTERED ON THE ROADWAY FACING THE FLOW OF TRAFFIC. BARRICADES SHALL BE PLACED WITH MAXIMUM 6' SPACING AND SHALL SPAN ENTIRE ROADWAY WIDTH.
2. ONLY ONE "END OF ROAD MARKER" REQUIRED PER STREET.
3. THE BARRICADE FACES SURFACES SHALL BE FULLY REFLECTORIZED IN ALTERNATE SILVER-WHITE AND RED STRIPING, USING HIGH INTENSITY RETRO REFLECTIVE SHEETING CONFORMING TO THE REQUIREMENTS OF WISDOT SPEC. 637.2.2.2, TYPE H REFLECTIVE SHEETING.
4. THE PLACEMENT OF THE BARRICADE SHALL BE 10'-0" FROM THE END OF THE ASPHALT ROAD WITH THE BARRICADE CENTERED ON THE ROADWAY FACING THE FLOW OF TRAFFIC.



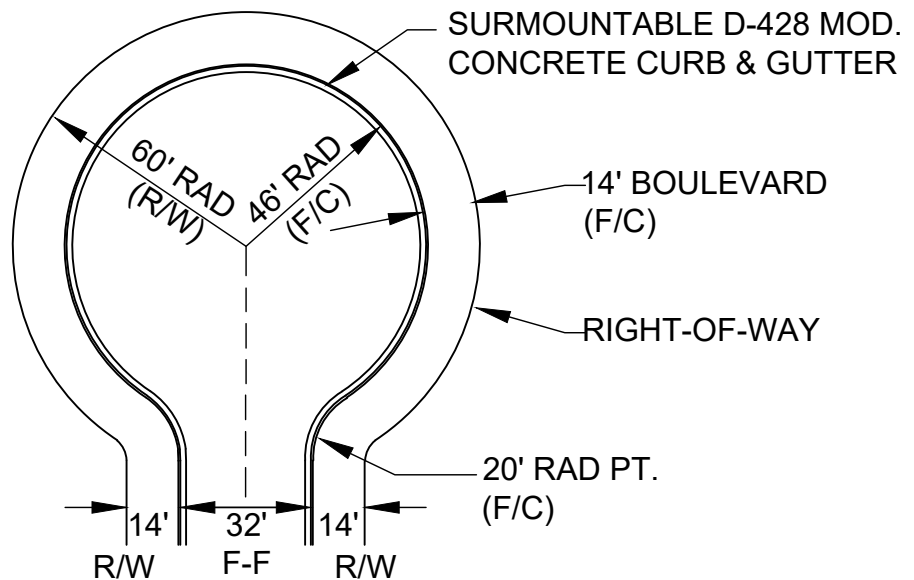
PERMANENT BARRICADE

LAST REVISION:
March 2019

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STR-18



STANDARD CUL-DE-SAC FOR 50' R/W



STANDARD CUL-DE-SAC FOR 60' R/W

NOTE:

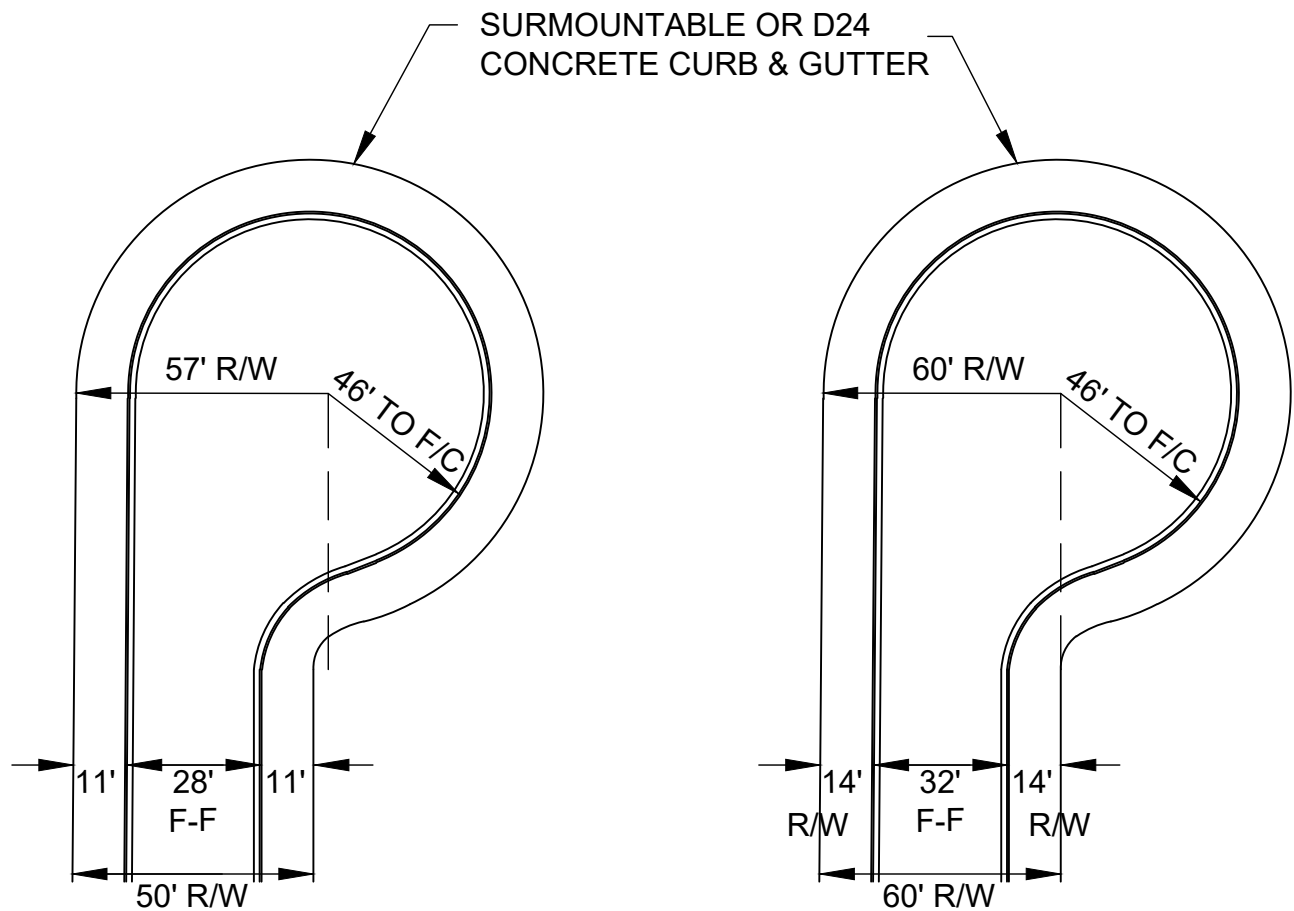
IF SIDEWALK EXTENDS PART WAY AROUND
CUL-DE-SAC, HYDRANT TO BE LOCATED ON
LOT LINE WHERE NO SIDEWALK EXISTS.



TYPICAL COMMERCIAL
CUL-DE-SAC FOR 50' & 60'
RIGHT-OF-WAYS

LAST REVISION:
March 2019

PLATE NO.
STR-19



STANDARD CUL-DE-SAC FOR 50' & 60' R/W

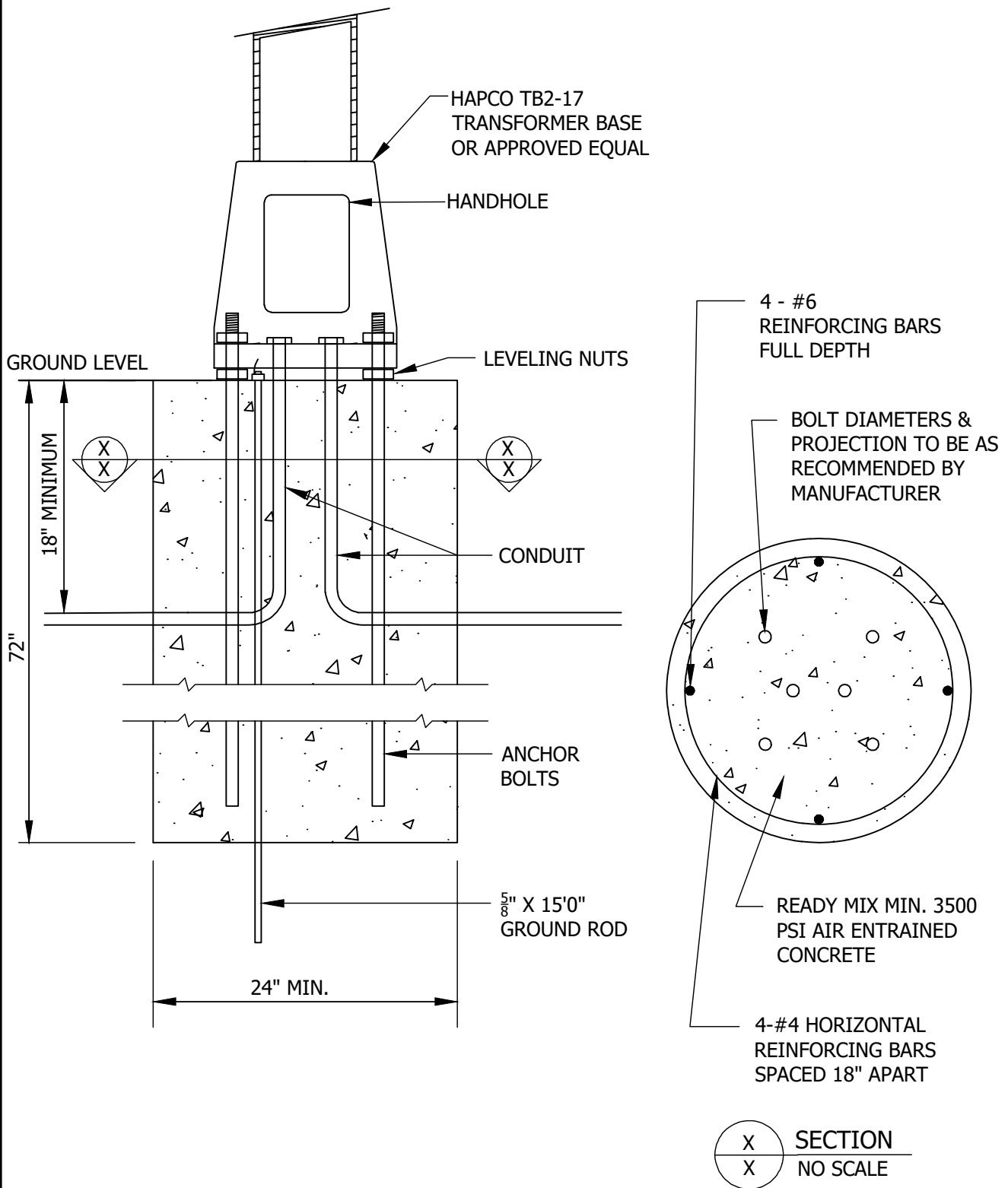
NOTE:
IF SIDEWALK EXTENDS PART WAY AROUND
CUL-DE-SAC, HYDRANT TO BE LOCATED ON
LOT LINE WHERE NO SIDEWALK EXISTS.



TYPICAL ECCENTRIC CUL-DE-SAC
FOR 50' & 60' RIGHT-OF-WAYS

LAST REVISION:
March 2019

PLATE NO.
STR-20



BASE FOR UP TO 40' LIGHTING STANDARDS

LAST REVISION:
March 2019

PLATE NO.
STR-21

4.5" O.D.

POLE CAP W/ SS SCREWS

WIRE ACCESS HOLE WITH
1" I.D. RUBBER GROMMET
(TRUSS ARM SIDE)

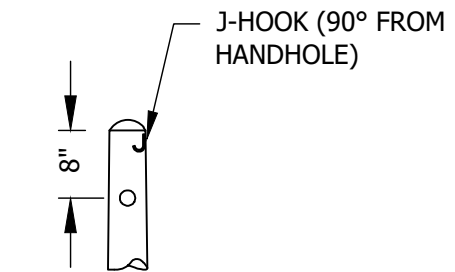
ELLIPTICAL TRUSS ARM
(SEE DETAIL STR-24)

TAPERED ALUMINUM
TUBE

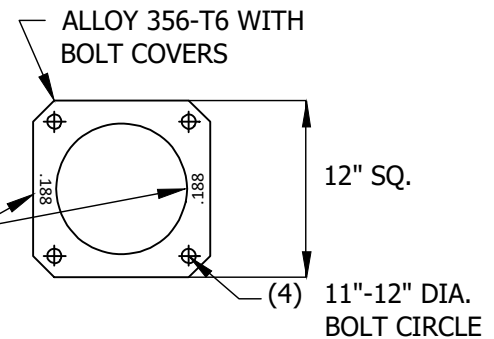
30'

NOTE:
NOT TO SCALE

ENGRAVE WALL
THICKNESS - .188
($\frac{5}{16}$ " HEIGHT)



TOP DETAIL



POLE BASE DETAIL

NOTE:

1. WISDOT TYPE 5 POLE
2. INSTALL TRANSFORMER BASE PER STR-21.
3. MATERIAL- ALUMINUM TUBE ALLOY 6063-T6, 0.188" WALL THICKNESS. STAINLESS STEEL FASTENERS.
4. SATIN GROUND FINISH.
5. DO NOT GROUT BETWEEN BASE PLATE AND FOUNDATION. AIR MUST BE ALLOWED TO FLOW THROUGH THE POLE TO PREVENT MOISTURE INSIDE THE POLE.
6. ANCHOR BOLTS AS REQUIRED BY THE MANUFACTURER.
7. POLE SHALL BE CAPABLE OF WITHSTANDING A MINIMUM OF 90 MPH WINDS WITH A 1.3 GUST FACTOR.
8. POLE SHALL BE BREAKAWAY TYPE AND INCLUDE A BREAKAWAY FUSE HOLDER.
9. CENTER OF POLE SHALL BE 42" FROM FACE OF CURB.

8" O.D.

18"

4" X 6" REINFORCED HANDHOLE W/COVER &
GROUND PROVISION PER MANUFACTURER
(AWAY FROM TRAFFIC)



**30'-8" COMMERCIAL LIGHT
TAPERED ALUMINUM POLE**

LAST REVISION:
March 2019

PLATE NO.
STR-22

4.5" O.D.
POLE CAP W/ SS SCREWS
WIRE ACCESS HOLE WITH
1" I.D. RUBBER GROMMET
(TRUSS ARM SIDE)

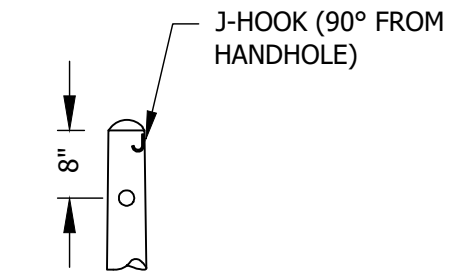
ELLIPTICAL TRUSS ARM
(SEE DETAIL STR-24)

TAPERED ALUMINUM
TUBE

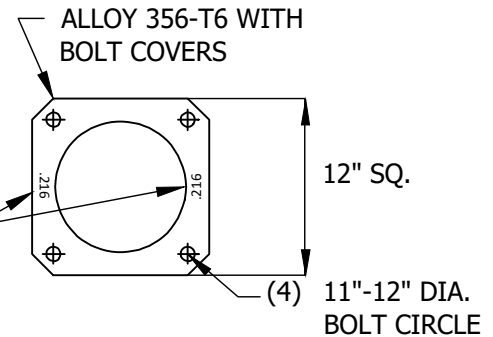
35'

NOTE:
NOT TO SCALE

ENGRAVE WALL
THICKNESS - .216
($\frac{5}{16}$ " HEIGHT)



TOP DETAIL



POLE BASE DETAIL

NOTE:

1. WISDOT TYPE 6 POLE
2. INSTALL TRANSFORMER BASE PER STR-21.
3. MATERIAL- ALUMINUM TUBE ALLOY 6063-T6, 0.216" WALL THICKNESS. STAINLESS STEEL FASTENERS.
4. SATIN GROUND FINISH.
5. DO NOT GROUT BETWEEN BASE PLATE AND FOUNDATION. AIR MUST BE ALLOWED TO FLOW THROUGH THE POLE TO PREVENT MOISTURE INSIDE THE POLE.
6. ANCHOR BOLTS AS REQUIRED BY THE MANUFACTURER.
7. POLE SHALL BE CAPABLE OF WITHSTANDING A MINIMUM OF 90 MPH WINDS WITH A 1.3 GUST FACTOR.
8. POLE SHALL BE BREAKAWAY TYPE AND INCLUDE A BREAKAWAY FUSE HOLDER.
9. CENTER OF POLE SHALL BE 42" FROM FACE OF CURB.

8" O.D.

18"

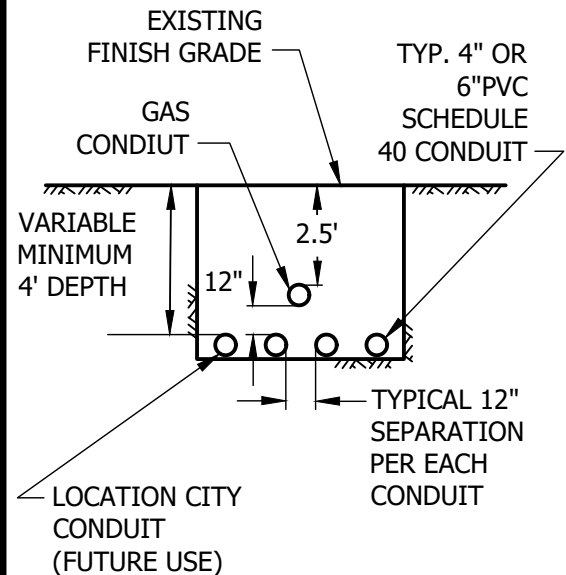
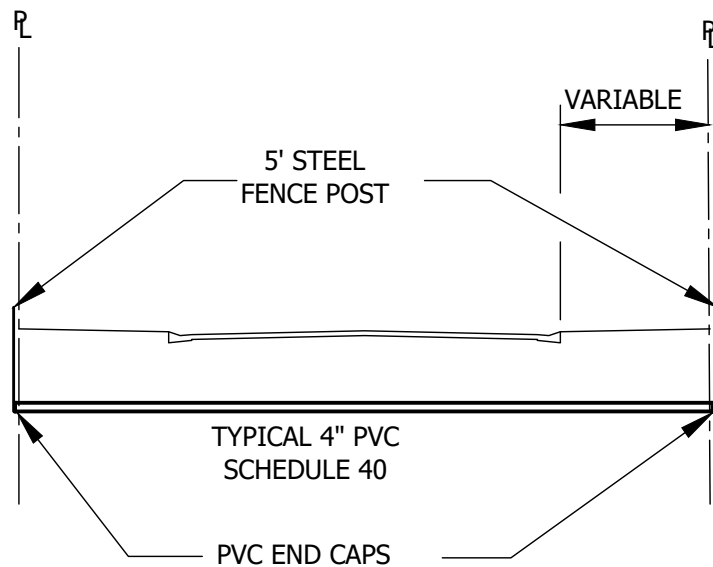
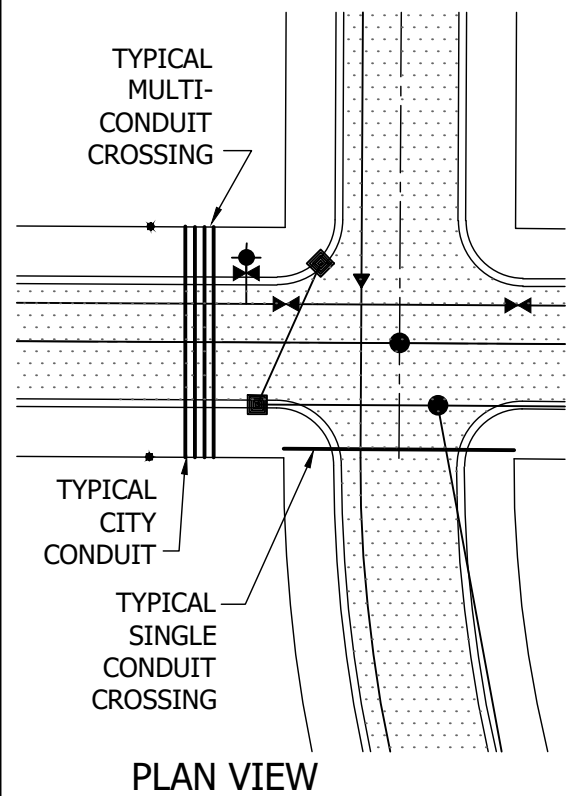
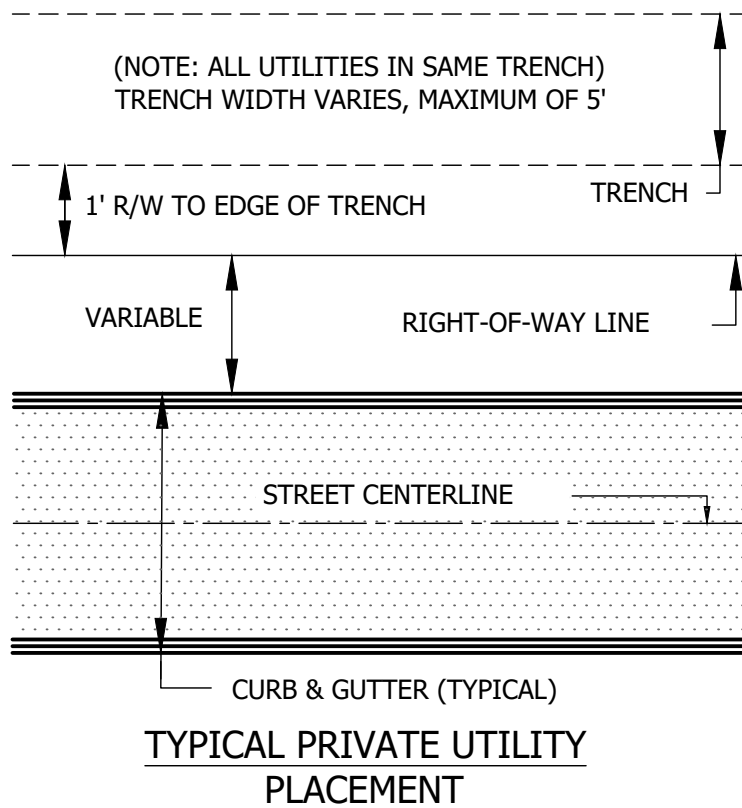
4" X 6" REINFORCED HANDHOLE W/COVER
& GROUND PROVISION PER MANUFACTURER
(AWAY FROM TRAFFIC)



35'-8" COMMERCIAL LIGHT TAPERED ALUMINUM POLE

LAST REVISION:
March 2019

PLATE NO.
STR-23

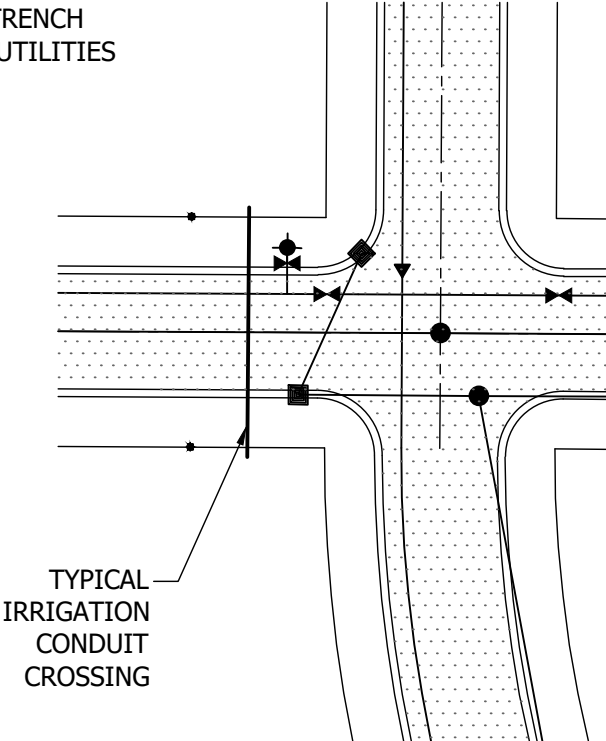


PRIVATE UTILITY CONDUIT CROSSING

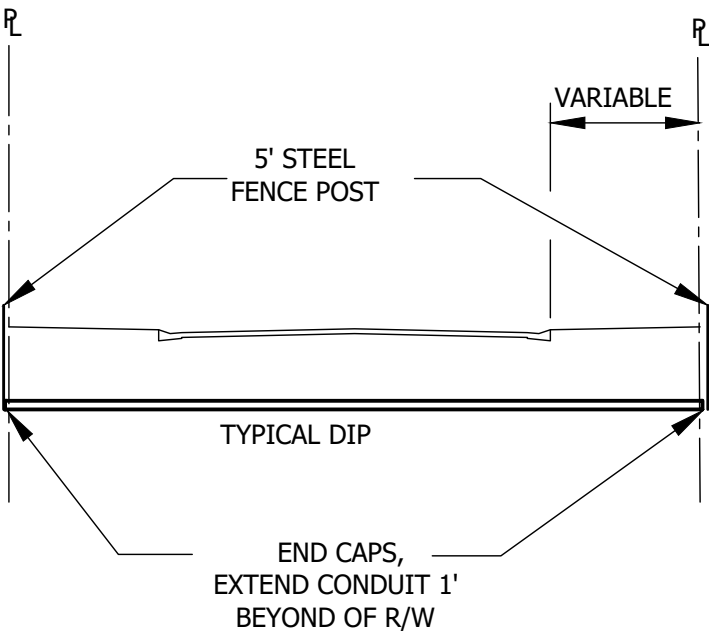
LAST REVISION:
March 2019

PLATE NO.
STR-25

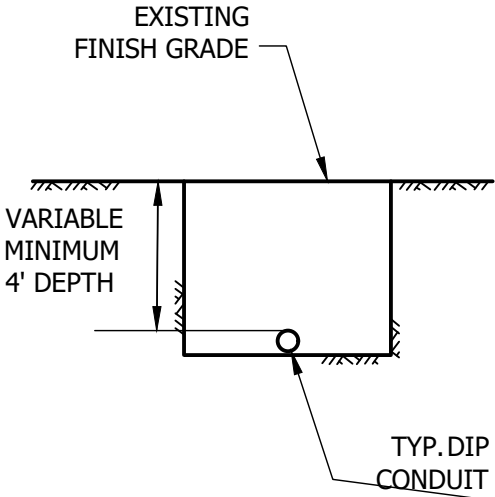
NOTE: IRRIGATION CONDUIT TRENCH
SEPARATE FROM ALL PRIVATE UTILITIES



PLAN VIEW



CROSS SECTION



TRENCH CROSS SECTION
AT CONDUIT CROSSING



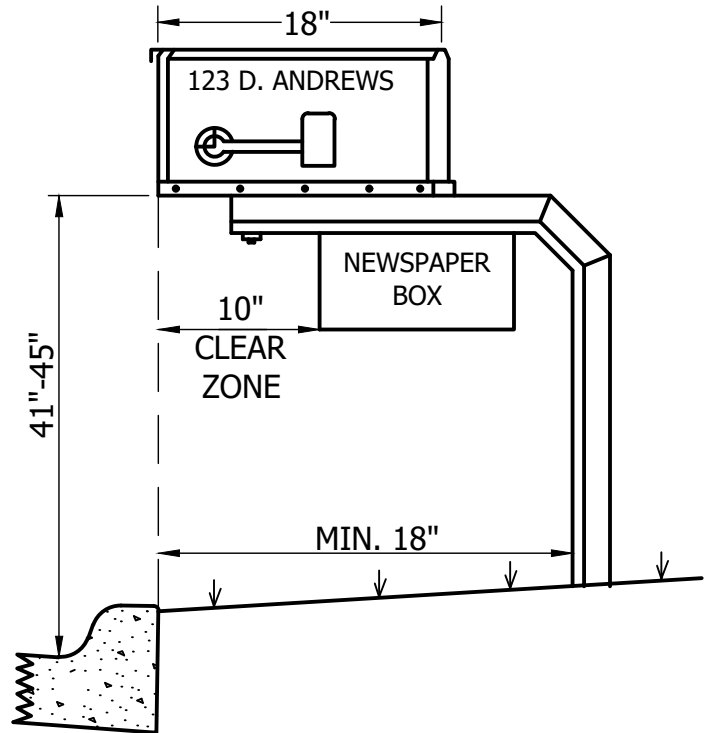
DIP IRRIGATION
CONDUIT CROSSING

LAST REVISION:
March 2019

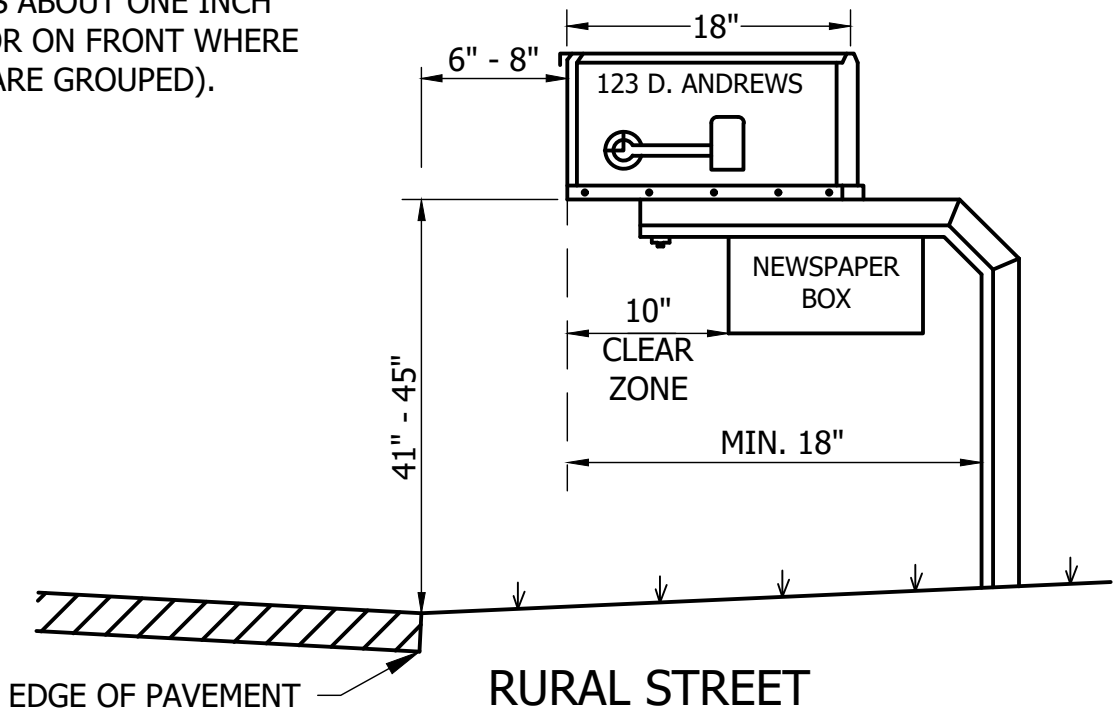
PLATE NO.
STR-26

NOTES:
 DIMENSIONS AS PER U.S.
 POSTAL SERVICE

ADDRESS MUST BE ON SIDE
 OF BOX FROM WHICH
 CARRIER APPROACHES IN
 LETTERS ABOUT ONE INCH
 HIGH (OR ON FRONT WHERE
 BOXES ARE GROUPED).



URBAN STREET



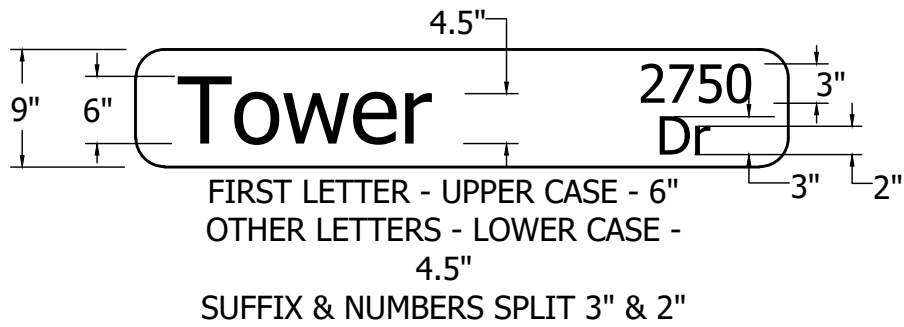
RURAL STREET



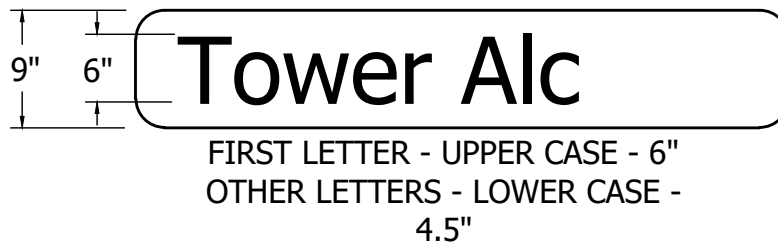
MAILBOX INSTALLATION

LAST REVISION:
 March 2019

PLATE NO.
 STR-27



PUBLIC - THROUGH STREET



PUBLIC - CUL-DE-SAC

STANDARD CONSTRUCTION NOTES FOR STREET NAME SIGNS

1. ALL STREET SIGNS SHALL BE DOUBLE-FACED FLAT BLADES.
2. ADDRESS NUMBERS FOR STREET NAME BLADES WILL BE PROVIDED AT A LATER DATE.
3. ALL PUBLIC STREET NAME BLADES SHALL BE "GREEN" IN COLOR. LETTERING ON ALL STREET NAME BLADES SHALL BE "WHITE" IN COLOR.
4. ALL STREET NAME BLADE SIGNS NEED TO BE MOUNTED ON TOP OF THE POST.



STREET NAME BLADE SIGNS
 PUBLIC STREETS

LAST REVISION:
 March 2019

PLATE NO.
 STR-28



FIRST LETTER- UPPER CASE - 6"
 OTHER LETTERS - LOWER CASE - 4.5"
 SUFFIX & NUMBERS SPLIT 3" & 2"

PRIVATE - THROUGH STREET



FIRST LETTER - UPPER CASE - 6"
 OTHER LETTERS - LOWER CASE - 4.5"
 SUFFIX & NUMBERS SPLIT 3" & 2"

PRIVATE - CUL-DE-SAC

STANDARD CONSTRUCTION NOTES FOR STREET NAME SIGNS

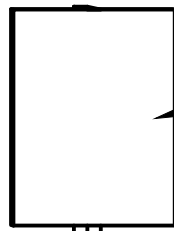
1. ALL STREET SIGNS SHALL BE SINGLE-FACED FLAT BLADES
2. ADDRESS NUMBERS FOR STREET NAME BLADES WILL BE PROVIDED AT A LATER DATE.
3. ALL PRIVATE STREET NAME BLADES SHALL BE "BLUE" IN COLOR.
 LETTERING ON ALL STREET NAME BLADES SHALL BE "WHITE" IN COLOR.
4. ALL STREET NAME BLADE SIGNS NEED TO BE SECURED USING 3/8" DRIVE RIVETS WITH NYLON WASHER TO POST, AND #34 CHERRYMADE RIVETS WITH 1-3/4" PVC SPACER ON ENDS.



STREET NAME BLADE SIGNS
 PRIVATE STREETS

LAST REVISION:
 March 2019

PLATE NO.
 STR-31



SIGN PANELS AS SPECIFIED OR AS SHOWN
ON THE PLANS OR SIGN LEGEND.

2 INCH TELES PAR SIGN POST

STREET SIGNS

1. BREAK OFF TO BE SET AT FINISH GRADE.
2. ANCHOR SLEEVE TO BE SET WITH TWO BOLT
HOLES EXPOSED AND ACCESSIBLE ABOVE
FINISH GRADE.



2-1/2 INCH, 18 INCH LONG OMNI SLEEVE

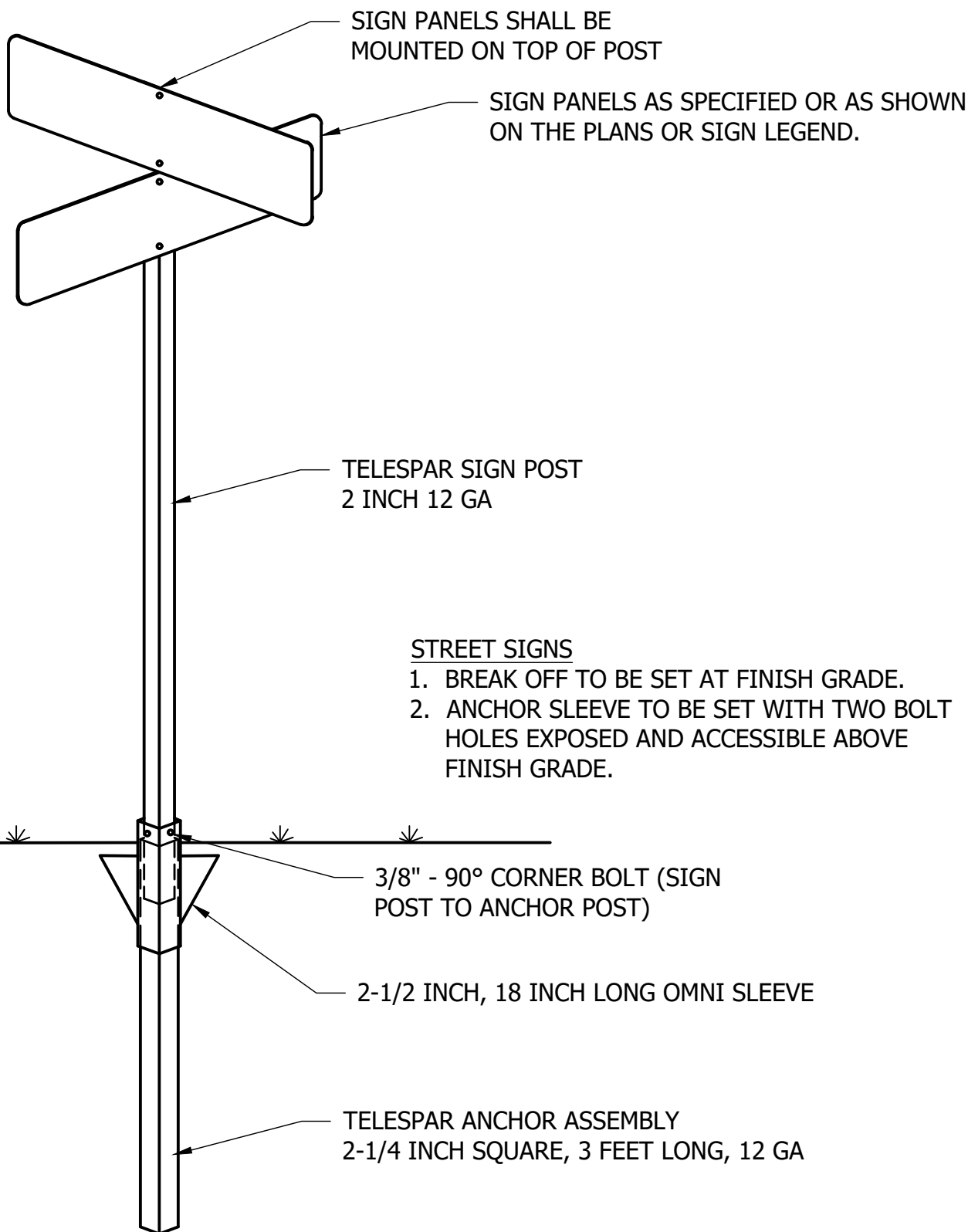
TELES PAR ANCHOR ASSEMBLY
2-1/4 INCH SQUARE, 3 FEET LONG, 12 GA



TYPICAL TRAFFIC SIGN INSTALLATION
BOULEVARD

LAST REVISION:
March 2019

PLATE NO.
STR-30



STREET SIGNS

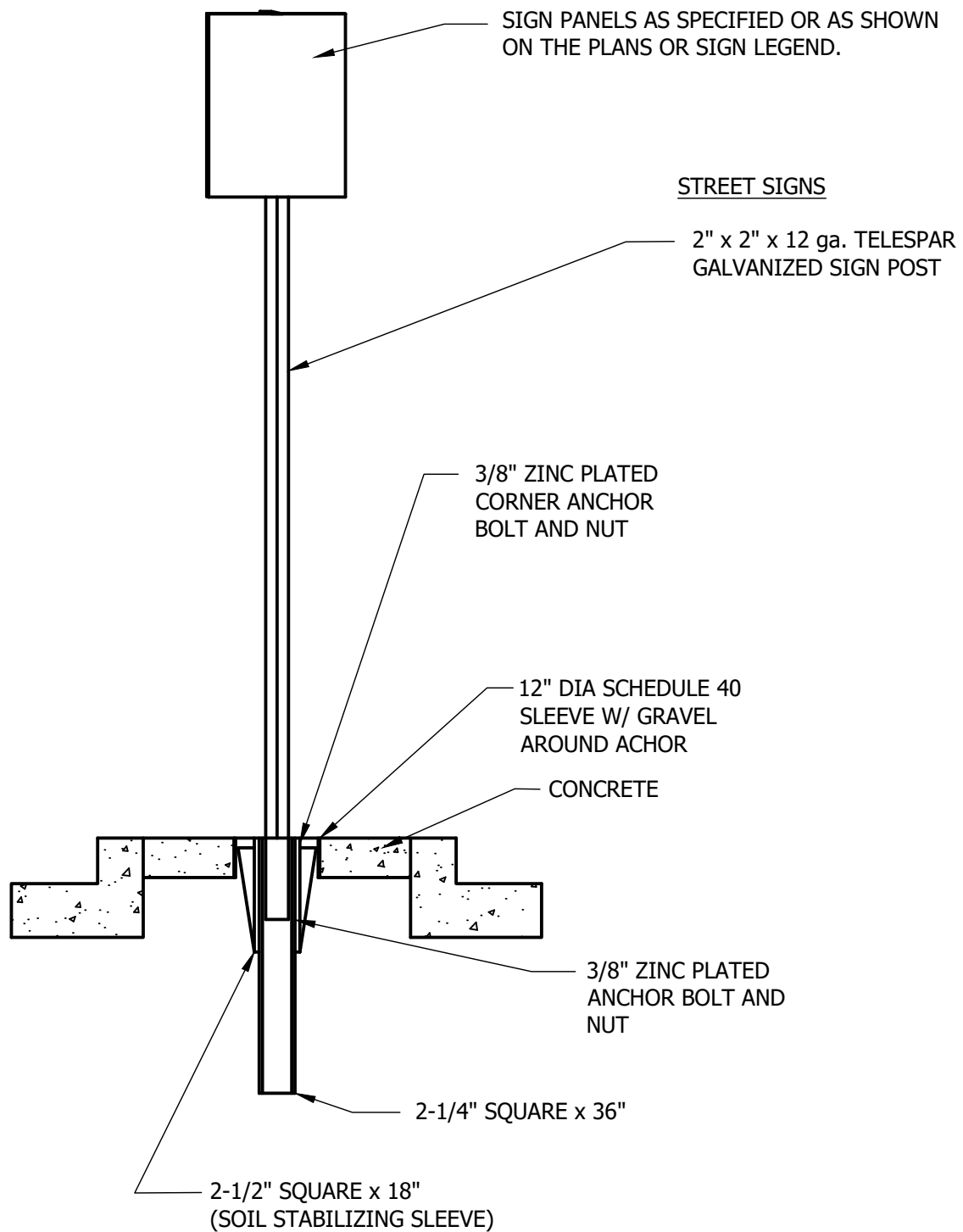
1. BREAK OFF TO BE SET AT FINISH GRADE.
2. ANCHOR SLEEVE TO BE SET WITH TWO BOLT HOLES EXPOSED AND ACCESSIBLE ABOVE FINISH GRADE.



TYPICAL TRAFFIC SIGN INSTALLATION STREET NAME BLADE SIGN

LAST REVISION:
March 2019

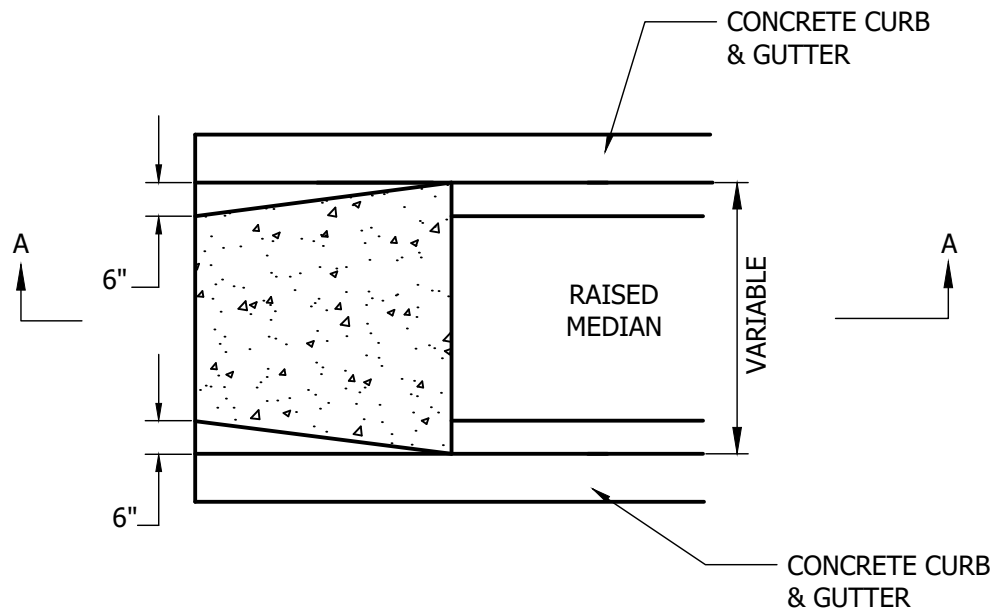
PLATE NO.
STR-31



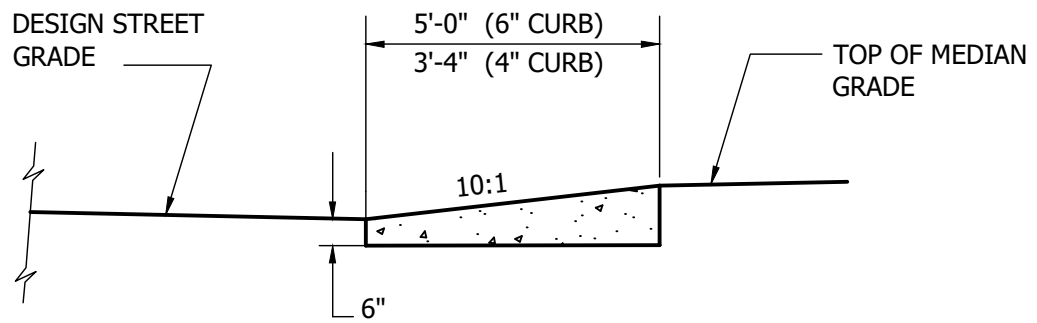
TYPICAL TRAFFIC SIGN INSTALLATION MEDIAN

LAST REVISION:
March 2019

PLATE NO.
STR-32



PLAN



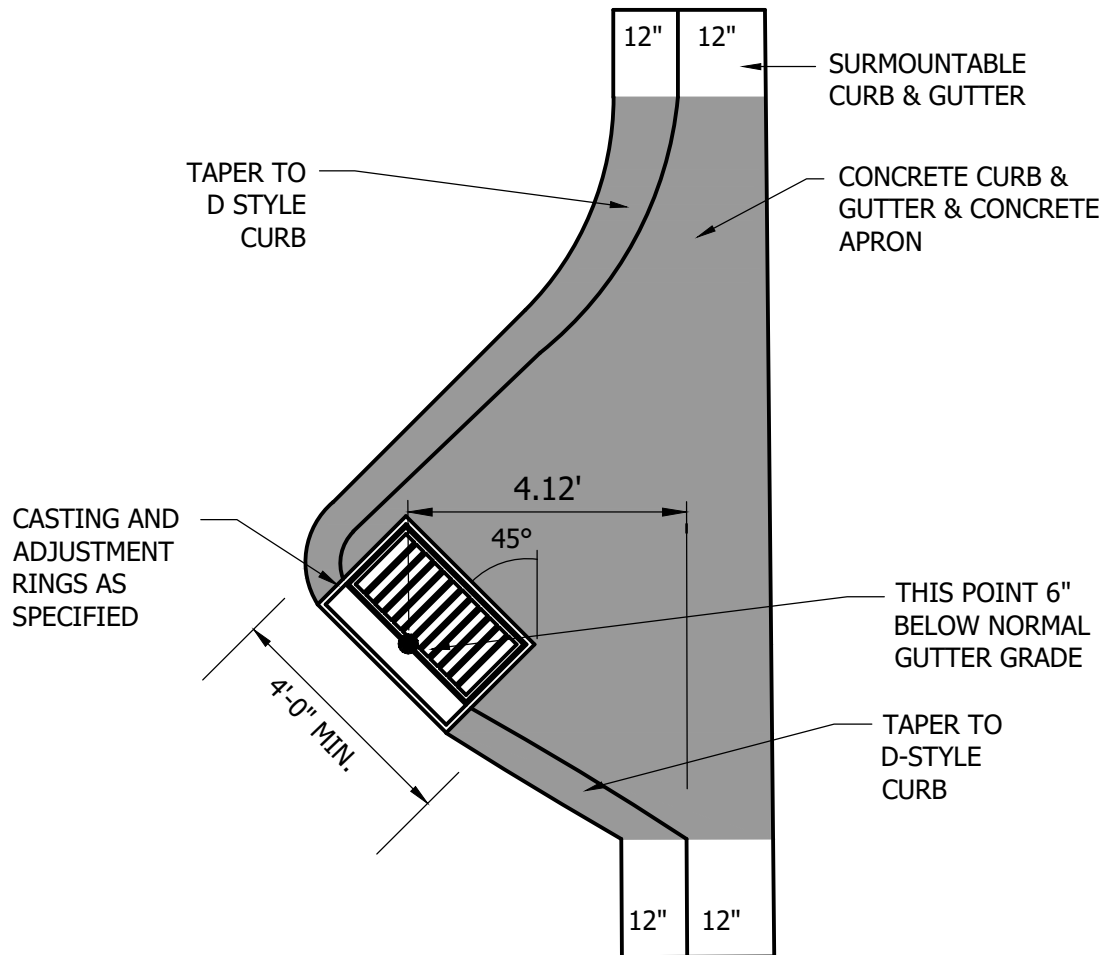
SECTION A-A



CONCRETE APPROACH
NOSE DETAIL

LAST REVISION:
March 2019

PLATE NO.
STR-33



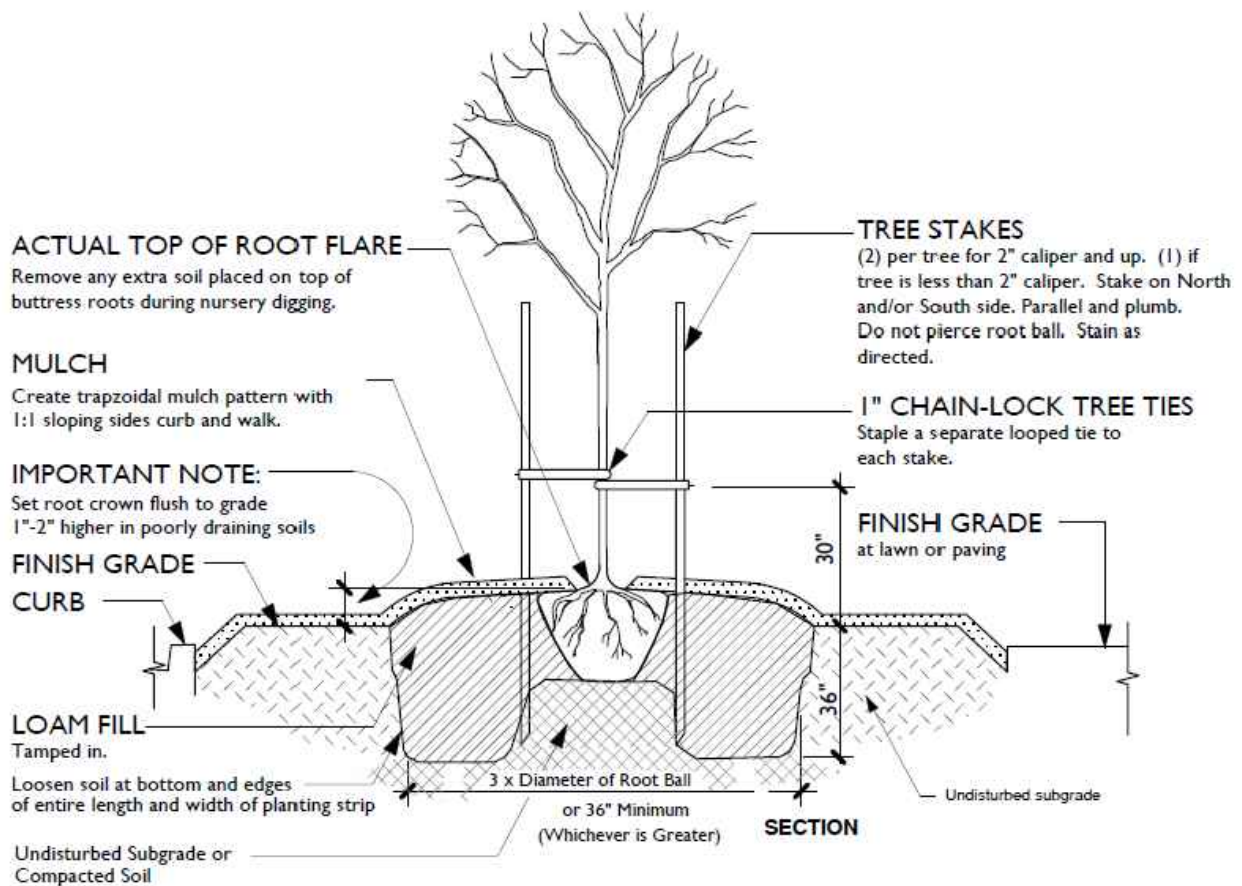
NOTE:
APRON PAYMENT IS FOR SHADED AREA ONLY.



HIGH CAPACITY CONCRETE APRON (SURMOUNTABLE CURB)

LAST REVISION:
March 2019

PLATE NO.
STR-34



NOTES:

- Trees planted too deeply will not be accepted.
- Remove tree ties and stakes one year after planting unless directed otherwise.
- Provide trees planted in lawn with minimum 5 foot diameter bark area.
Hold bark away from trunk.
- Remove burlap, string and/or wire completely from tree prior to final installation.
- Finish grade is top of topsoil. Mulch is in addition.



TREE PLANTING

LAST REVISION:
March 2019

PLATE NO.
STR-36

INDEX

City
Plate
No.

SECTION 7 - EROSION CONTROL

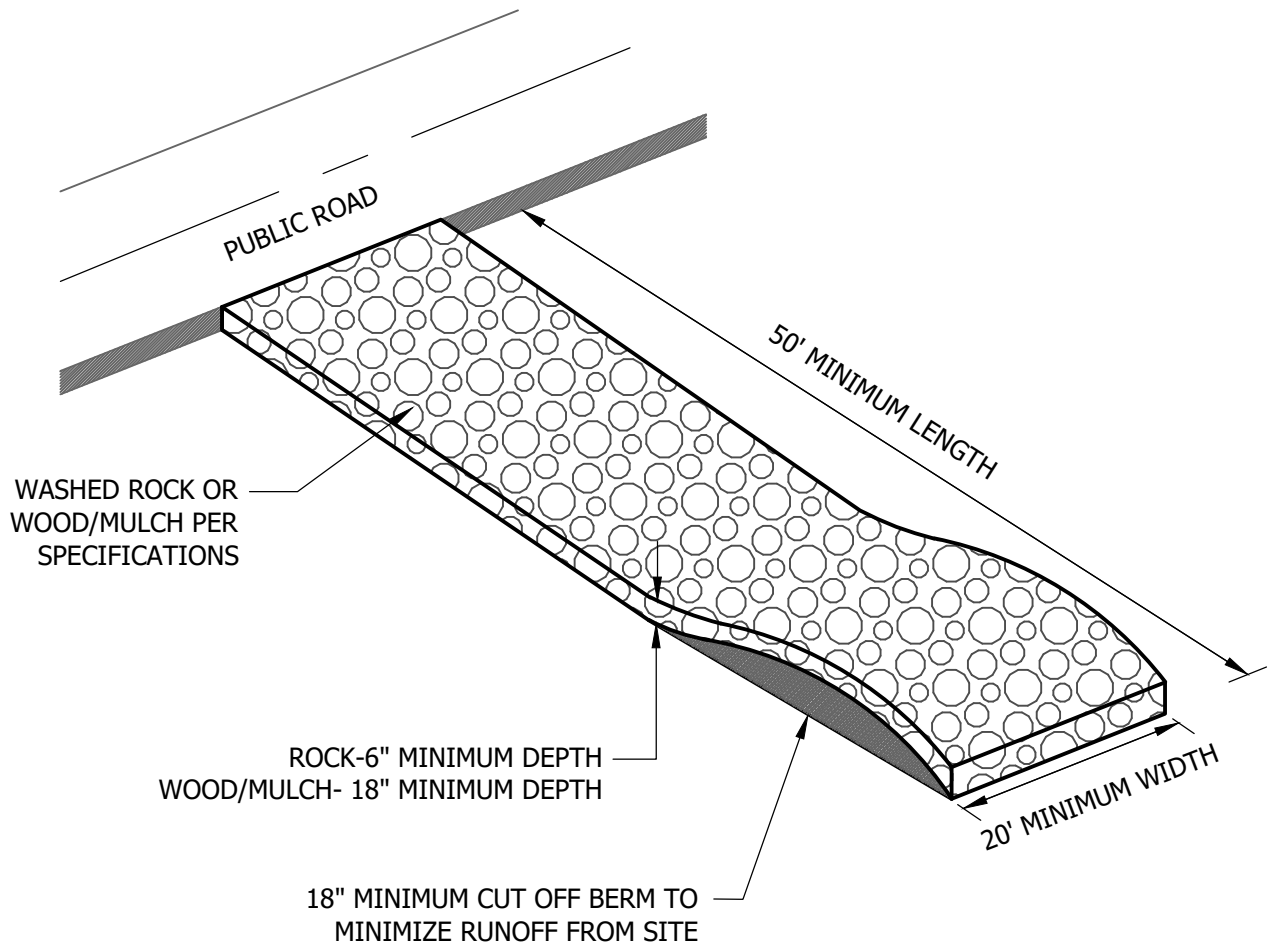
ERO-1	CONSTRUCTION ENTRANCE - ROCK OR WOOD/MULCH
ERO-2	SILT FENCE
ERO-3	FLOATING SILT CURTAIN
ERO-4	EROSION MAT INSTALLATION
ERO-5	INLET PROTECTION FOR CATCH BASIN
ERO-6	INLET PROTECTION FOR BEEHIVE CASTING
ERO-7	INLET PROTECTION ROCK FILTER FOR CATCH BASIN
ERO-8	CATCH BASIN INLET PROTECTION FOR AFTER PAVING
ERO-9	DITCH BLOCKING
ERO-10	DITCH CHECK/ROCK WEEPER SIZING AND MATERIAL
ERO-11	TEMPORARY SLOPE GRADING



SECTION 7 - EROSION CONTROL INDEX

LAST REVISION:
March 2019

PLATE NO.
ERO



NOTES:

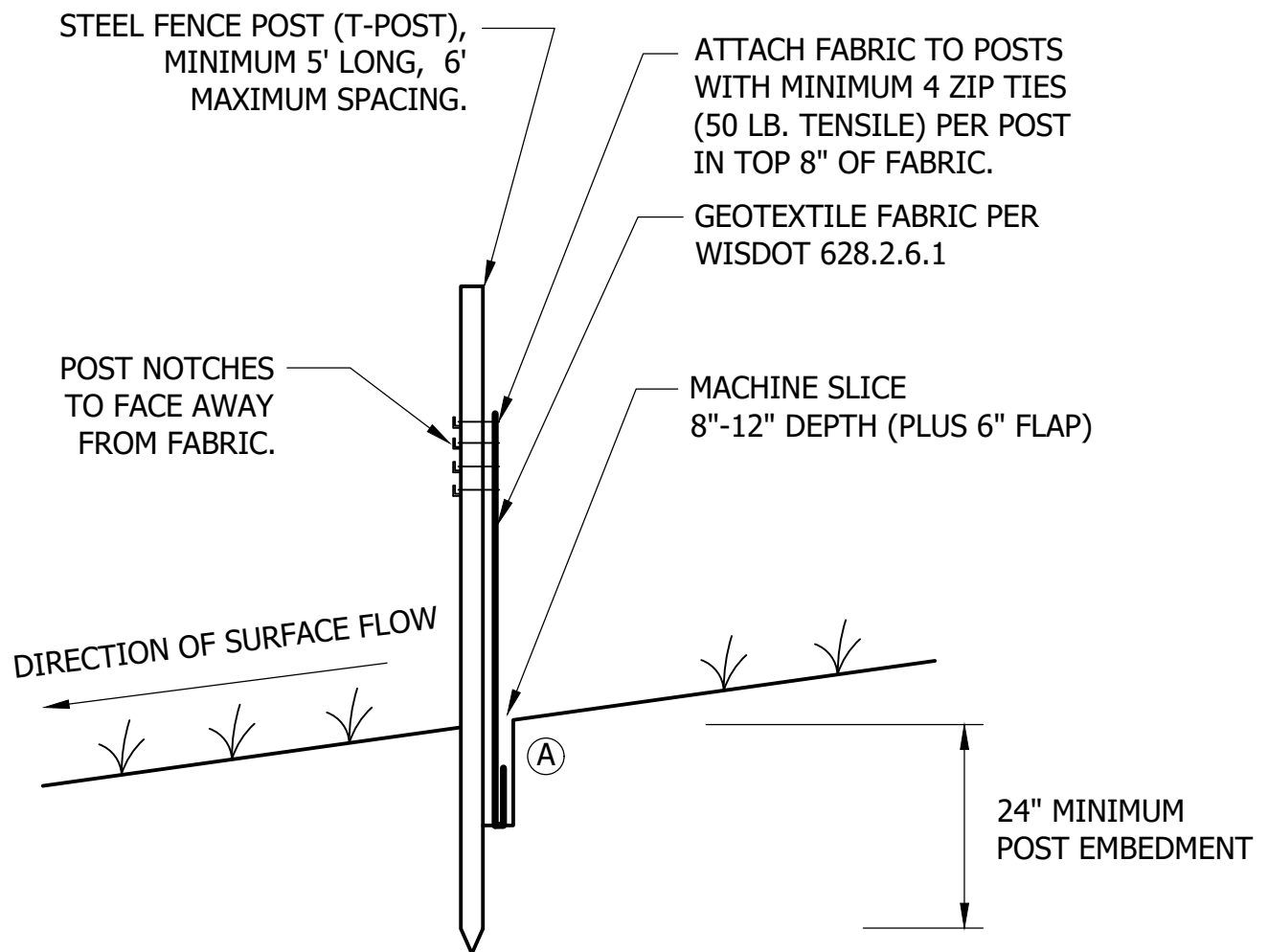
1. PLACE FILTER FABRIC UNDER ROCK OR MULCH TO STOP MUD MIGRATION THROUGH MATERIAL.
2. MAINTAIN ENTRANCE REGULARLY TO PREVENT SEDIMENTATION ON PUBLIC ROADWAYS. REMOVE FUGITIVE ROCK OR MULCH FROM ADJACENT ROADWAYS DAILY OR MORE FREQUENTLY AS NECESSARY.



**CONSTRUCTION ENTRANCE -
ROCK OR WOOD / MULCH**

LAST REVISION:
March 2019

PLATE NO.
ERO-1



NOTE:

THE MACHINE SLICED METHOD (THIS DETAIL) IS THE STANDARD SILT FENCE INSTALLATION METHOD. ALTERNATIVE SILT FENCE INSTALLATION METHODS SHOULD ONLY BE USED WHEN APPROVED OR DIRECTED BY THE CITY.

(A) COMPACTION:

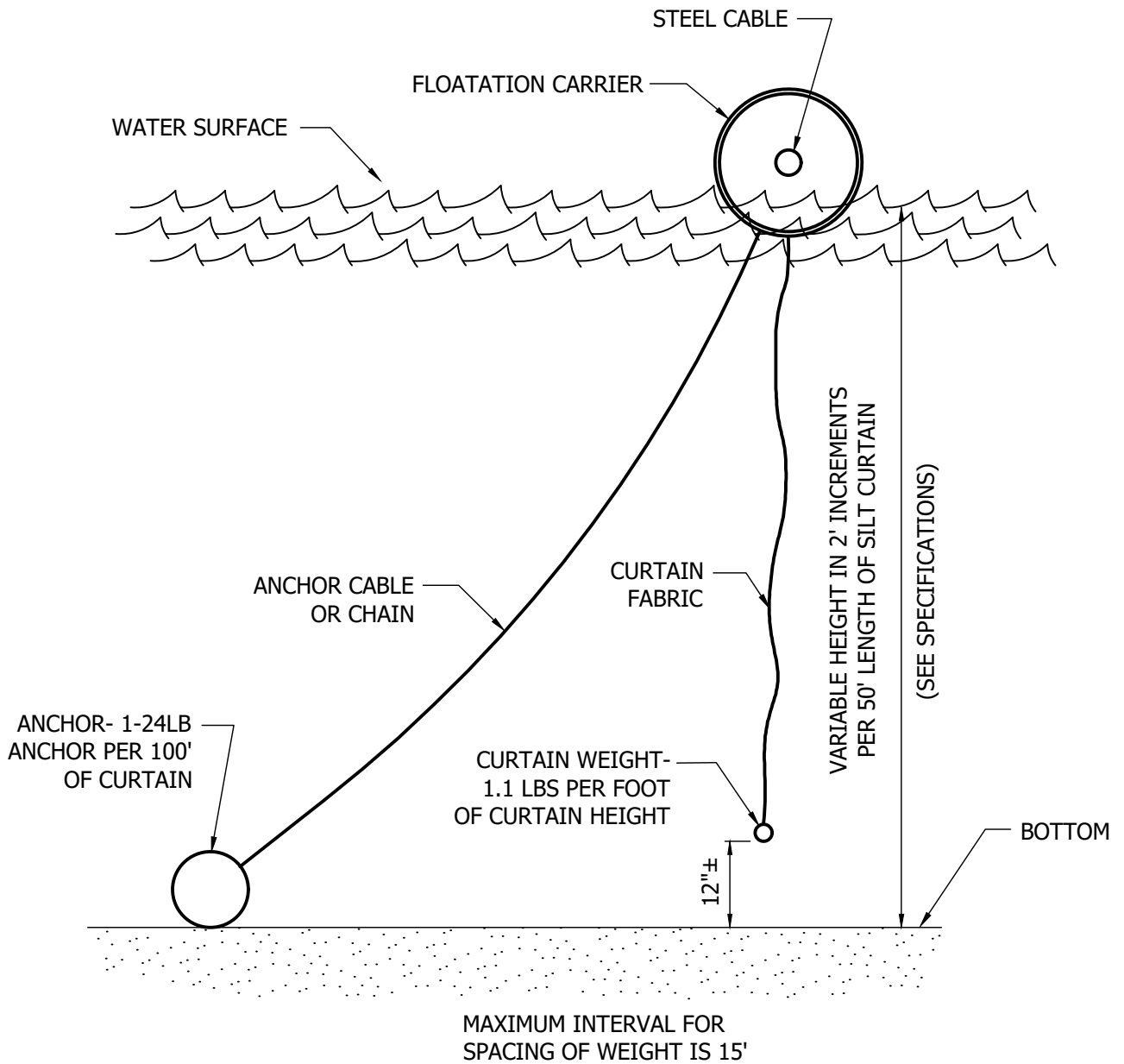
AFTER "SLICING" IN THE FABRIC AND *BEFORE* INSTALLATION OF STEEL POSTS, DRIVE INSTALLATION EQUIPMENT OVER THE "SLICE" WHILE FABRIC IS LAYING ON THE GROUND. *THEN* INSTALL STEEL POSTS AND PULL UP FABRIC TO ATTACH AT A UNIFORM HEIGHT.



SILT FENCE

LAST REVISION:
March 2019

PLATE NO.
ERO-2



NOTES:

- DOUBLE SILT CURTAINS SHOULD BE SPACED 10' APART.
- CURTAIN LENGTH TO MATCH BOTTOM PROFILE AS CLOSELY AS POSSIBLE.



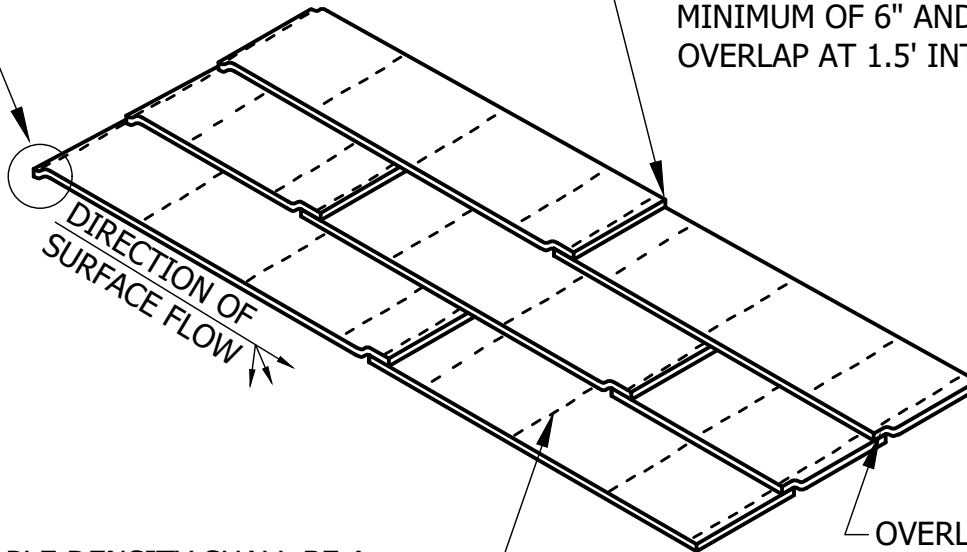
FLOATING SILT CURTAIN

LAST REVISION:
March 2019

PLATE NO.
ERO-3

ANCHOR TRENCH
(SEE DETAIL AND NOTES BELOW)

OVERLAP END JOINTS
MINIMUM OF 6" AND STAPLE
OVERLAP AT 1.5' INTERVALS.

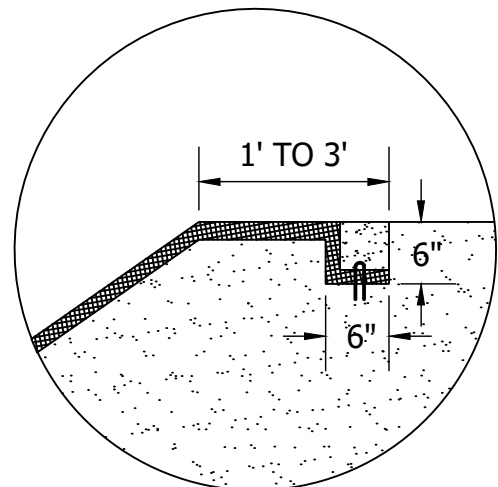


STAPLE DENSITY SHALL BE A
MINIMUM OF 3 U-SHAPED 8",
11 GAUGE METAL STAPLES PER
SQUARE YARD (THIS MAY VARY AS
DIRECTED BY THE CITY).

OVERLAP
LONGITUDINAL JOINTS
MINIMUM OF 6"

ANCHOR TRENCH

1. DIG 6" X 6" TRENCH
2. LAY BLANKET IN TRENCH
3. STAPLE AT 1.5' INTERVALS
4. BACKFILL WITH NATURAL SOIL AND COMPACT
5. BLANKET LENGTH SHALL NOT EXCEED 100'
WITHOUT AN ANCHOR TRENCH



EROSION MAT INSTALLATION

LAST REVISION:
March 2019

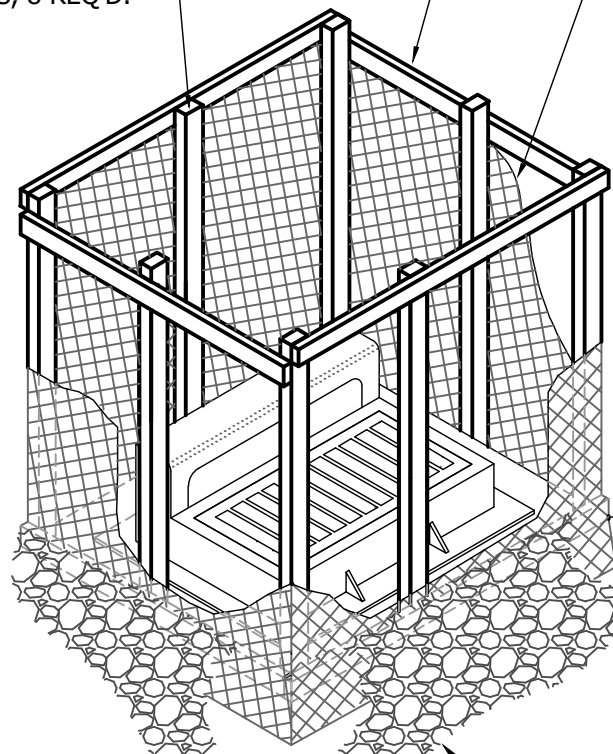
PLATE NO.
ERO-4

WOODEN LATH SHALL BE NAILED SECURELY TO THE POST MEMBER TO SECURE FILTER FABRIC.

2" X 4" HORIZONTAL MEMBERS CONTINUOUS AROUND TOP AND BOTTOM. FASTENED TO EACH POST USING 2-20D COMMON NAILS

2" X 4" X 2.5' LONG WOOD POSTS, 8 REQ'D.

MONOFILAMENT GEOTEXTILE FABRIC AS PER WISDOT SPEC. 612.2.8 (MACHINE SLICED). ADDITIONAL 8-10" OF FABRIC FLAP AT BOTTOM OF BOX



2'-6"

8-10" FABRIC FLAP EXTENDING BEYOND BOTTOM 2"x4" - BURY UNDER ROCK TO PREVENT UNDERWASHING

1 1/2" WASHED ROCK
1' DEEP X 1' WIDE

NOTES:

CONTRACTOR SHALL CONSTRUCT SILT BOX TO FIT AROUND THE INLET STRUCTURE WITH 6" MINIMUM CLEARANCE TO EDGES OF STRUCTURE. SILT BOX TO BE PLACED ON AN EVEN SURFACE 6" BELOW STRUCTURE OPENING. TOP OF SILT BOX TO EXTEND 18" MINIMUM ABOVE EXISTING GRADE.



**INLET PROTECTION
FOR CATCH BASIN**

LAST REVISION:
March 2019

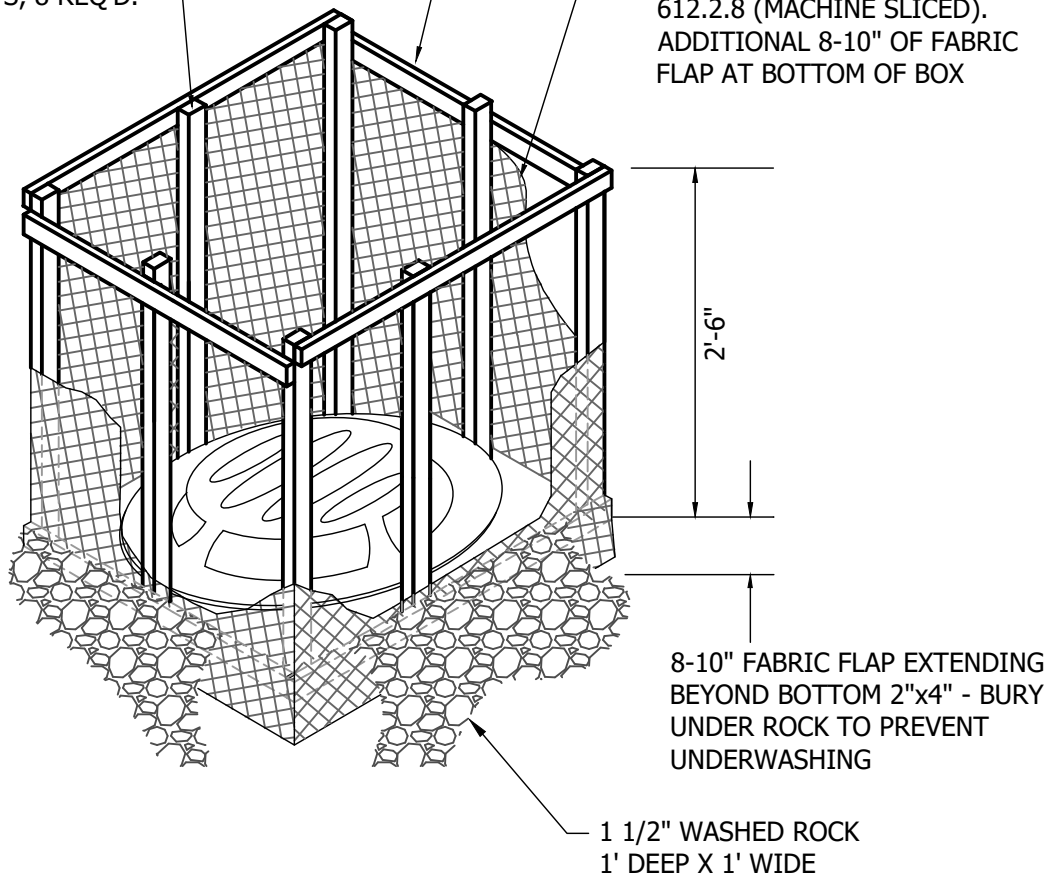
PLATE NO.
ERO-5

WOODEN LATH SHALL BE NAILED
SECURELY TO THE POST MEMBER
TO SECURE FILTER FABRIC.

2" X 4" HORIZONTAL MEMBERS
CONTINUOUS AROUND TOP AND
BOTTOM. FASTENED TO EACH POST
USING 2-20D COMMON NAILS

2" X 4" X 2.5' LONG
WOOD POSTS, 8 REQ'D.

MONOFILAMENT GEOTEXTILE
FABRIC AS PER WISDOT SPEC.
612.2.8 (MACHINE SLICED).
ADDITIONAL 8-10" OF FABRIC
FLAP AT BOTTOM OF BOX



NOTES:

CONTRACTOR SHALL CONSTRUCT SILT BOX TO FIT
AROUND THE INLET STRUCTURE WITH 6" MINIMUM
CLEARANCE TO EDGES OF STRUCTURE. SILT BOX
TO BE PLACED ON AN EVEN SURFACE 6" BELOW
STRUCTURE OPENING. TOP OF SILT BOX TO
EXTEND 18" MINIMUM ABOVE EXISTING GRADE.

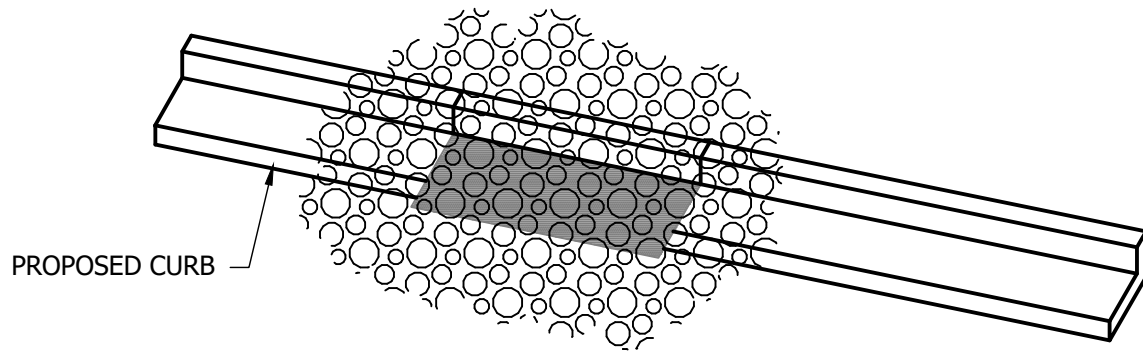


**INLET PROTECTION
FOR
BEEHIVE CASTING**

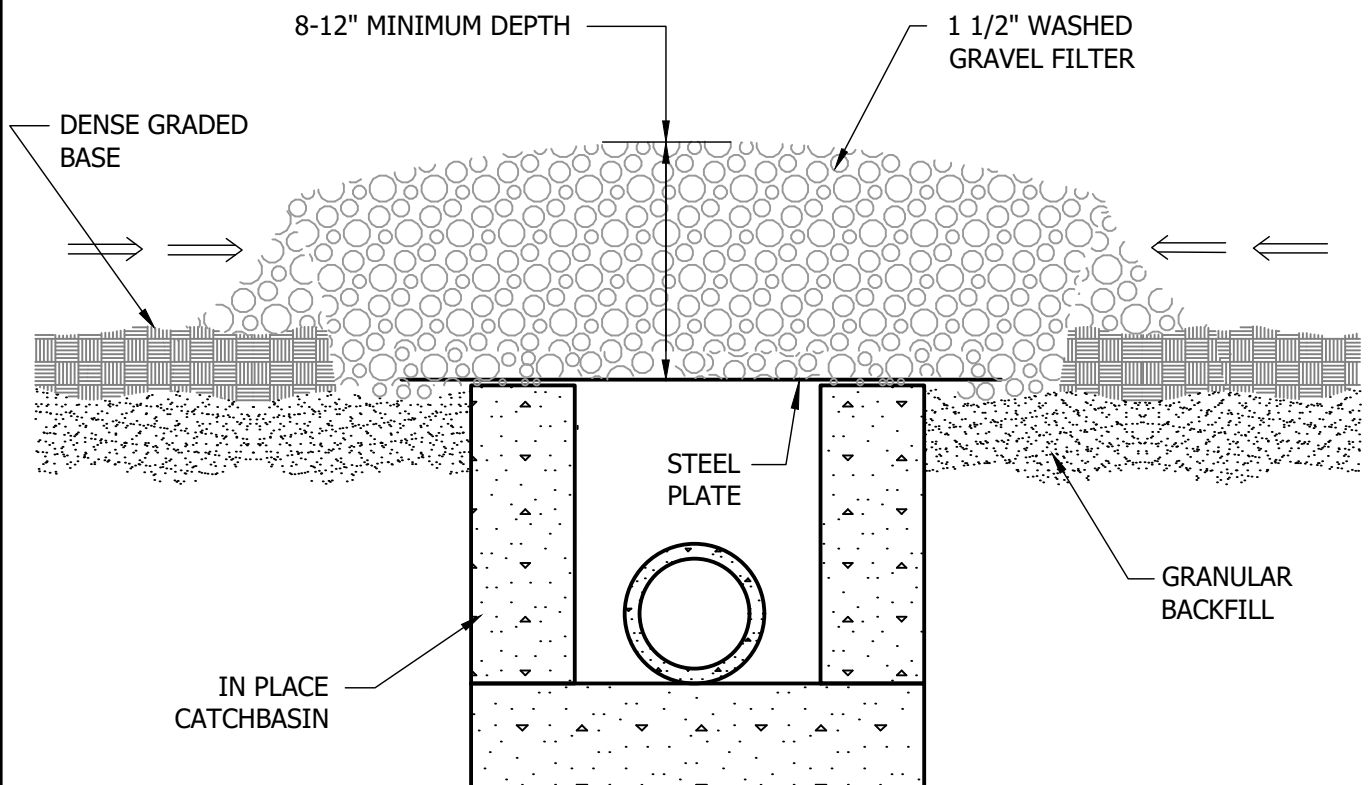
LAST REVISION:
March 2019

PLATE NO.
ERO-6

PLAN



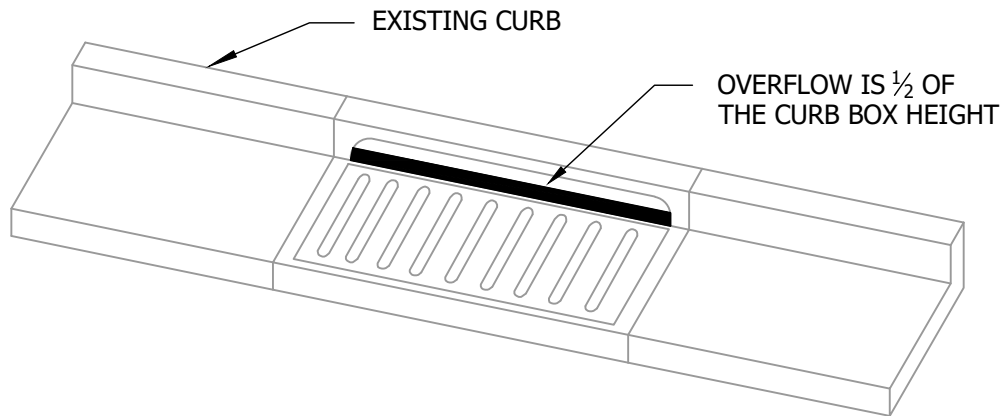
← = DIRECTION OF SURFACE FLOW



INLET PROTECTION ROCK FILTER FOR CATCH BASIN

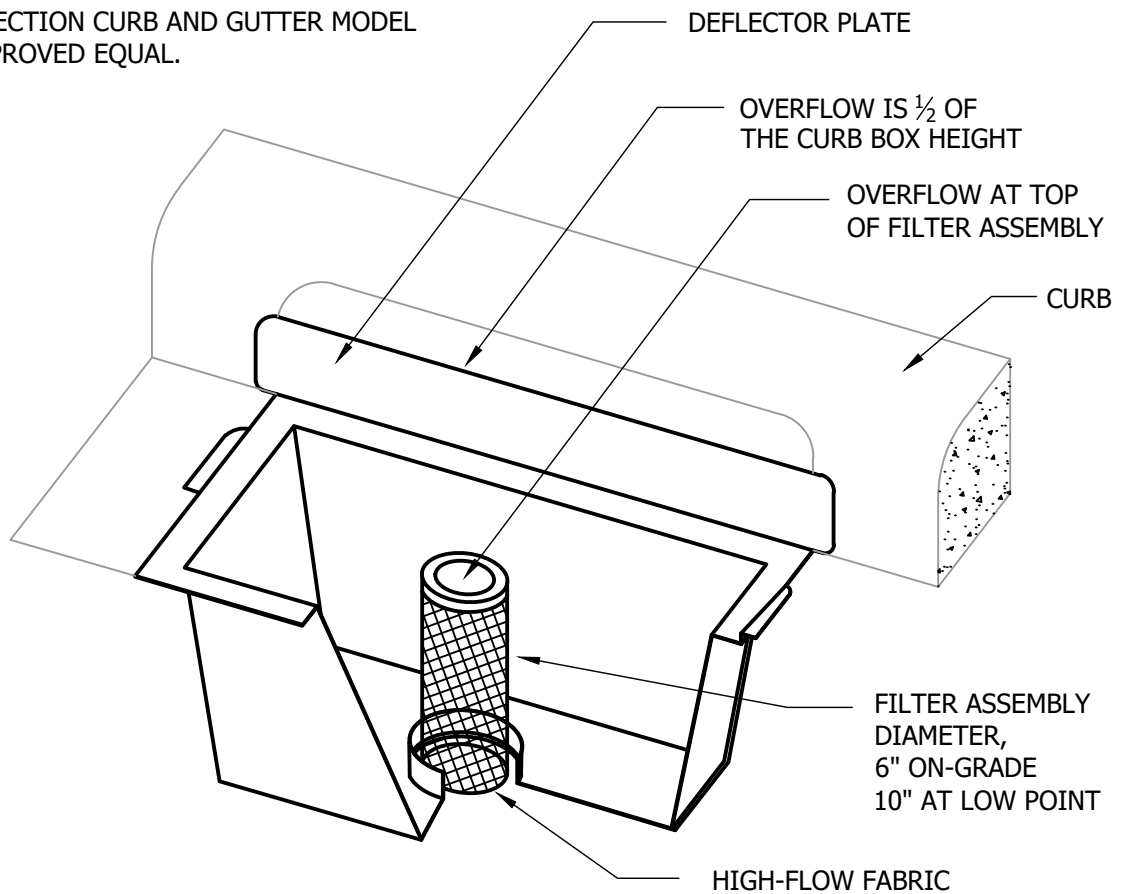
LAST REVISION:
March 2019

PLATE NO.
ERO-7



PLAN

WIMCO ROAD DRAIN CG-23* HIGH FLOW
INLET PROTECTION CURB AND GUTTER MODEL
OR CITY APPROVED EQUAL.



* FOR THE NEW R-3290-VB STANDARD CASTING,
INSTALL WIMCO ROAD DRAIN
CG-3290 OR CITY APPROVED EQUAL.

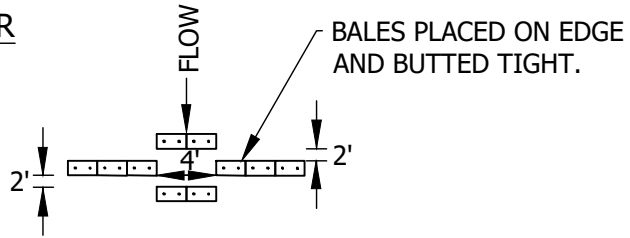


INLET PROTECTION CATCH BASIN INSERT AFTER PAVING

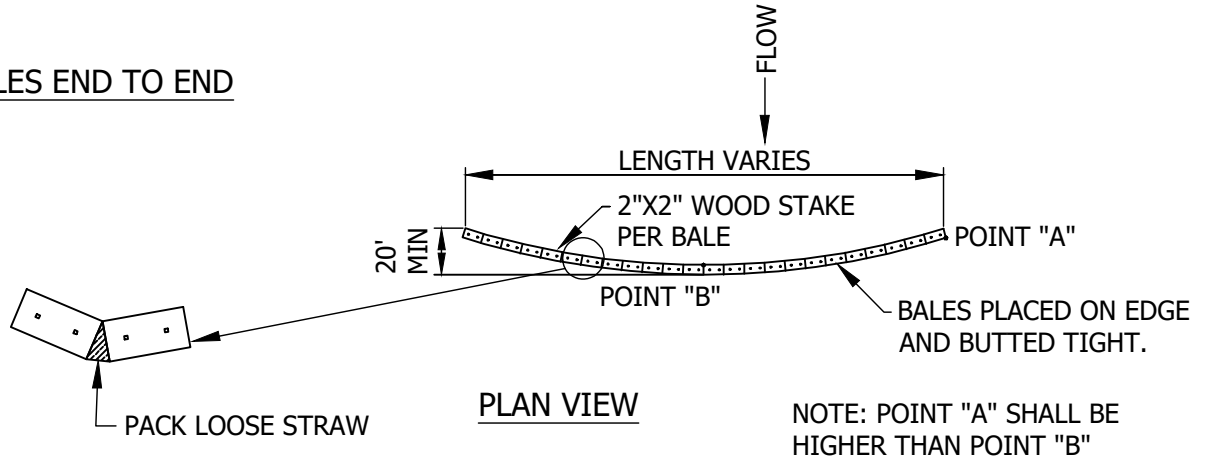
LAST REVISION:
March 2019

PLATE NO.
ERO-8

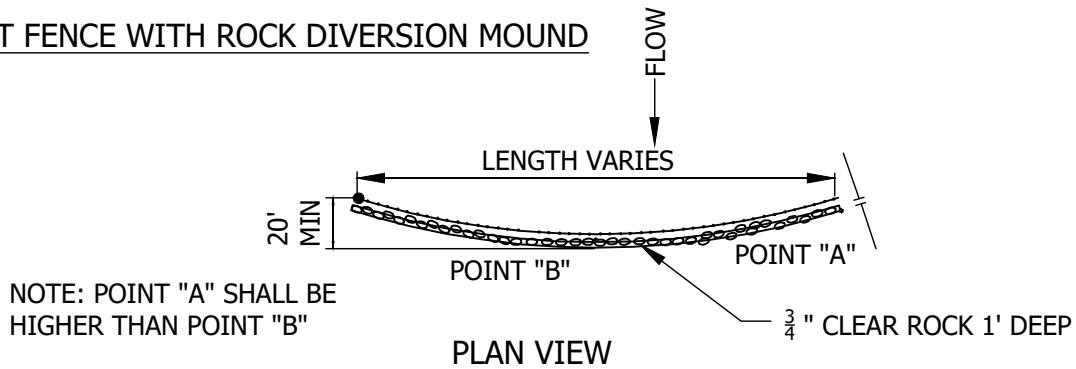
A. HAY BALES OFFSET IN THE CENTER



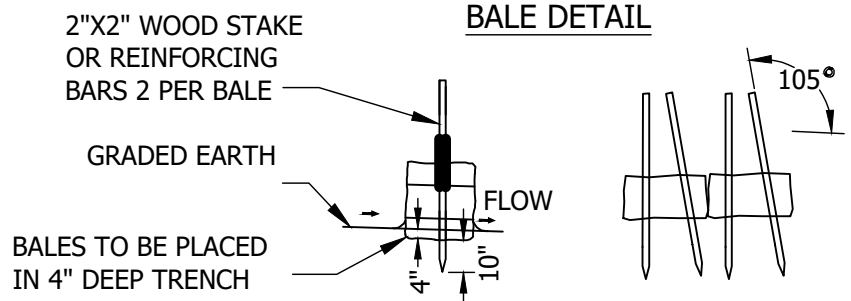
B. HAY BALES END TO END



C. SILT FENCE WITH ROCK DIVERSION MOUND



SPACING FOR ALL DITCH BLOCKS:	
SPACING (%)	DITCH GRADE (FT)
10"	100
4	75
6	50
8	40
10	25
10+	25



DITCH BLOCKING

LAST REVISION:
March 2019

PLATE NO.
ERO-9

6" X 6" TRENCH WITH LEADING EDGE
OF TYPE IV GEOTEXTILE FABRIC
STAPLED AT 1' INTERVALS AND
BACKFILLED WITH NATURAL SOIL

GEOTEXTILE
FABRIC

POINT 1

DITCH CHECK
ROCK/BIO WEEPER
OR CHECK DAM

FLOW
FLOW
FLOW

MIN. 6" OVERLAP
IF NECESSARY,
STAPLE 1' O.C.

NOTE:

POINT 1 MUST BE A
MINIMUM OF 6" HIGHER
THAN POINT 2 TO ENSURE
THAT WATER FLOWS OVER
THE DITCH CHECK AND
NOT AROUND THE ENDS.

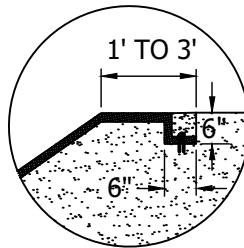
POINT 2

6" 11 GAUGE METAL
STAPLES SPACED 2' O.C.

	HEIGHT (INCHES)	WIDTH (INCHES)	MATERIAL
SMALL CHECK	24	12 - 18	WISDOT
LARGE CHECK	36	24 - 30	WISDOT
ROCK WEEPER	18	6 - 12	WISDOT (1 1/2" WASHED ROCK)

ANCHOR TRENCH

1. DIG 6" X 6" TRENCH
2. LAY BLANKET IN TRENCH
3. STAPLE AT 1.5' INTERVALS
4. BACKFILL WITH NATURAL SOIL AND COMPACT



MATERIALS
(SEE TABLE)

WIDTH
(SEE TABLE)

≥1.5

HEIGHT
(SEE TABLE)

DIRECTION OF
SURFACE FLOW

TYPE IV GEOTEXTILE FABRIC ANCHORED
IN 6" X 6" TRENCH WITH 6", 11 GAUGE
METAL STAPLES AT 1' INTERVALS

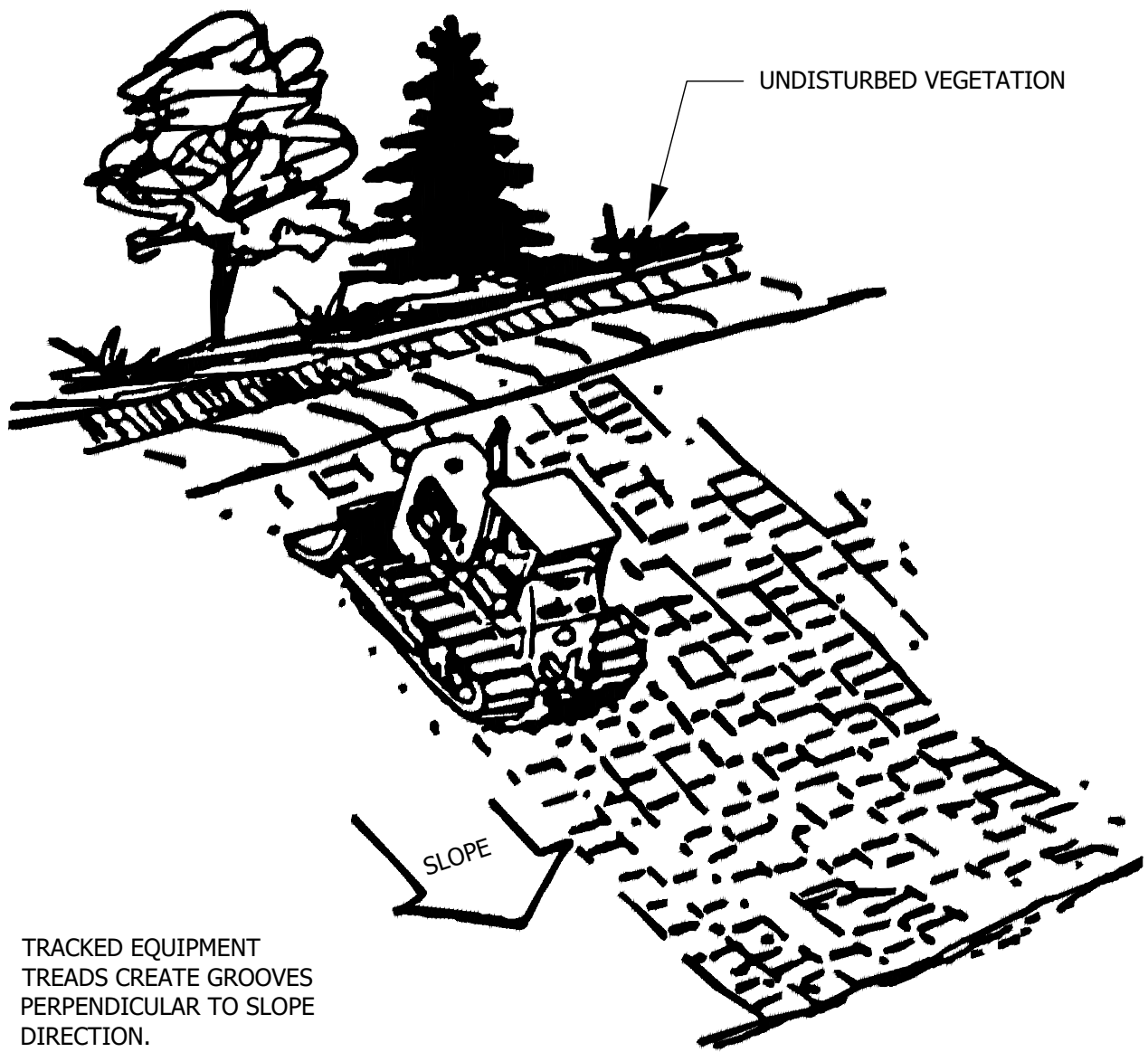
STAPLE DOWNSTREAM
SIDE OF FABRIC AT 2' INTERVALS



**DITCH CHECK
/ ROCK WEEPER
SIZING & MATERIALS**

LAST REVISION:
March 2019

PLATE NO.
ERO-10



NOTE:

ALL SLOPES WITH A GRADE EQUAL TO OR STEEPER THAN 3:1
REQUIRE SLOPE TRACKING. SLOPES WITH A GRADE MORE GRADUAL
THAN 3:1 REQUIRE SLOPE TRACKING IF THE STABILIZATION METHOD
IS EROSION CONTROL BLANKET OR HYDROMULCH.



SLOPE TRACKING

LAST REVISION:
March 2019

PLATE NO.
ERO-11